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THE AMERICAN PSYCHOLOGIST

VOLUME 1



NUMBER 6

June, 1946

Published Monthly by

THE AMERICAN PSYCHOLOGICAL ASSOCIATION, INC.

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THE AMERICAN PSYCHOLOGIST

The Professional Journal of the American Psychological Association, Inc.

Volume 1

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THE AMERICAN PSYCHOLOGIST is published monthly by the American Psychological Association, Inc., at Mount Royal and Guilford Avenues, Baltimore 2, Maryland. Subscription: \$7.00, single copy \$.75. Communications on business matters should be addressed to Publishers, The American Psychologist, Mount Royal and Guilford Avenues, Baltimore 2, Maryland, or the American Psychological Association, Inc., 2101 Constitution Ave., N.W., Washington 25, D. C. Address communications on editorial matters to 2101 Constitution Ave., N.W., Washington 25, D. C.

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Entered as second-class matter January 9th, 1946 at the Post Office at Baltimore, Md., under the Act of March 3rd, 1879.

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ROBERT MEARNS YERKES¹

ROBERT MEARNS YERKES in 1924 completed a report on "Scientific Problems of Human Migration" and then picked up his own scientific problems and migrated to Yale. He was already a distinguished veteran, both in military and in scientific affairs. From 1901 to 1917 he served at Harvard University, during the last nine years of this period as associate professor of comparative psychology. At Cambridge he had established a first rate laboratory of comparative psychology, introduced American students to the use of Pavlov's methods, and invented his own problem boxes and other devices for quantitative studies of animal behavior. By 1917 Yerkes had published some seventy scientific contributions, including four books and four monographs. As an interest only secondary to his animal studies, he had developed and standardized scales and methods for examining human intelligence.

The United States entered the first World War in April, 1917. Yerkes was that year president of the American Psychological Association. It became chiefly his responsibility to organize psychologists and psychological methods for government service. He undertook this task with excellent foresight and complete devotion, and as Major under the Surgeon General of the Army planned and carried out a program of psychological examining of recruits. This work has been fully described in Memoir XV, National Academy of Sciences, 1921. Yerkes was one of a small group of scientific leaders who did most to plan and make effective the National Research Council, and was chairman of the Research Information Service of the Council from 1919 to 1924. In this period he devoted much time to the Chairmanship of the Council's Committee for Research in Problems of Sex. This he has continued until the present, and a large volume of important research studies have been possible in the Yale School of

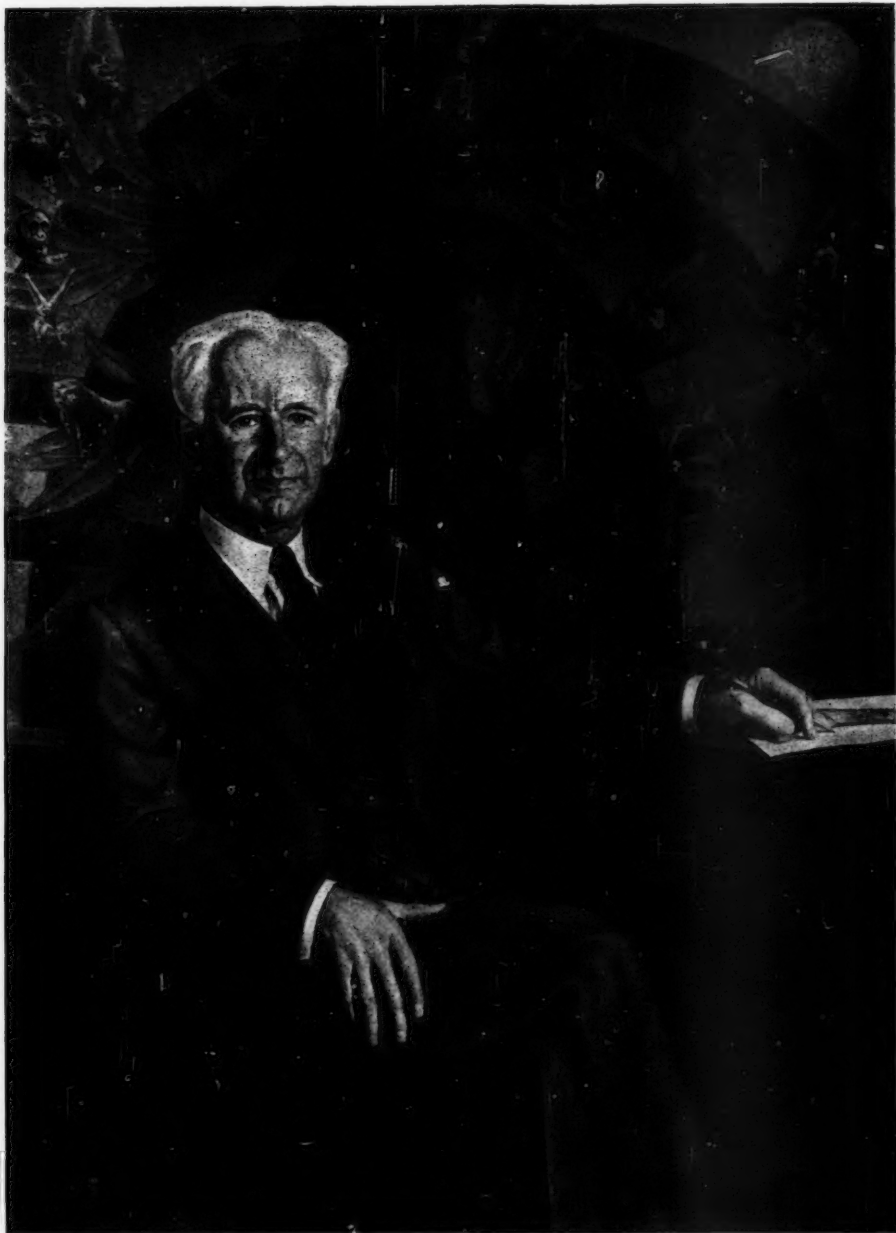
Medicine and elsewhere through funds thus made available.

The Institute of Psychology was established in Yale University in 1924 by an appropriation from the Laura Spelman Rockefeller Memorial "to promote psycho-biological and anthropological research with special reference to the problems of human behavior." Professor Yerkes was invited and accepted a professorship of psychology in this newly formed Institute. This was fortunate for Yale and also for Yerkes, who for several years had promulgated a plan for the comprehensive study of anthropoids. The new Institute offered the opportunity for the realization of this plan. Rapid developments took place. There was established on Prospect Street in New Haven a special laboratory for psycho-biological study of primates. An inclusive survey of the naturalistic and experimental literature of anthropoid life was completed. Yerkes and Yerkes published a monumental volume *The Great Apes*. Arrangements were perfected for the systematic naturalistic study of the chimpanzee and gorilla in Africa. Plans were formulated and investigations started on a large program of psycho-biological research with anthropoid subjects.

In the five years during which the Institute of Psychology continued, the soundness of the major premise on which Dr. Yerkes had based his part of this great project was amply demonstrated. It was proved practical to house and maintain chimpanzees as experimental subjects in New Haven and to conduct a wide variety of behavioral and psychological studies on the members of the colony. This total accomplishment was an outstanding success and brought great prestige to Yale University in the fields of biology and psychobiology and attracted a large number of first class young scholars, who came as graduate students, fellows, or visiting investigators.

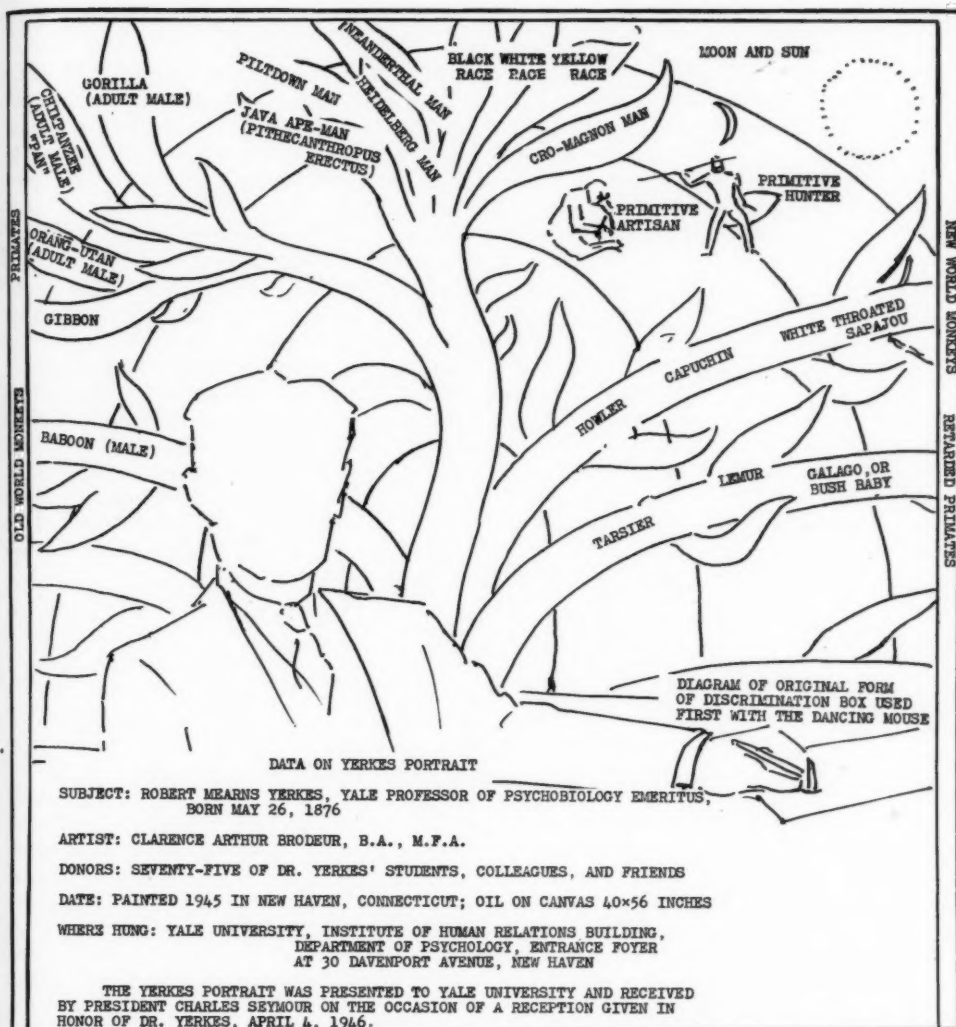
In 1929 the University inaugurated The Institute of Human Relations, in which the former Institute of Psychology was incorporated along with several already established research activities and interests. It was at this step that Professor Yerkes became associated with the School of Medicine and a member of its Board of Permanent Officers.

¹ On the following page is a reproduction of a portrait of Professor Robert M. Yerkes recently presented to Yale University by a group of his students, colleagues, and friends. The appreciative account is a minute prepared by Professor Walter R. Miles on the occasion of Professor Yerkes' retirement.



ROBERT MEARNS YERKES

Courtesy of Yale University Art Gallery



By placing the laboratories of comparative psychobiology in conjunction with those of physiology, human psychology, and the social sciences, Professor Yerkes foresaw that the anthropoid studies could be made to contribute to a social biology. His motivating interest in chimpanzee or other anthropoid experiments has always been the solution of problems or groups of problems, many of which may not be readily approached by aid of human

subjects. Just as the African laboratories of the Pasteur Institute at Kindia were established to utilize the chimpanzee and other primates in the investigation of the problems of disease, so the Yale Primate Laboratories were to aid in the elucidation of problems of behavior. In 1930 a suitable station for breeding and observing apes was set up at Orange Park, Florida, as an extension of the University Laboratories. Provision was made in one

wing in the Sterling Hall of Medicine in 1931 for housing the primate laboratory, which was then transferred from Prospect Street to its new quarters.

In the thirteen years that have intervened since the strident call of the chimp was first heard in our midst, these animals have performed an enormous amount and variety of subject-observer work for Professor Yerkes and his large, gallant, and devoted band of scientific experimenters. The names of many of these chimps became almost household words among us. They performed sensory, perceptual, and learning experiments almost without end. As jockeys riding the shoulders of their investigators, they raced to goals which involved manipulating complicated machines, making delicate discriminations, learning to cooperate together, grooming each other under scrutinizing observation, competing for social approval of the opposite sex, trying to use vocal language and to be taught decorum. Undisturbed by the noisy experimental advance, Professor Yerkes has calmly marched ahead, step by step fulfilling his plan, reaching and

building on the goals which he foresaw were probable of attainment and planning still further developments. What in 1916 was regarded as idealistic and impossible, he has brought to realization in our midst. The members of this Board have learned to know, respect, and admire Robert Yerkes. In and through him we have a remarkable illustration of scientific foresight and planning for the constructive, methodological building of biological science. Psychology, behavioral science, social biology—whatever this general subject is called by the end of the twentieth century and during some of the next centuries—the name of Yerkes will stand in the literature that needs to be cited and the name of Yale will also be mentioned. It has been part of our fortunate lot to live through the years when these two names were actively joined. We think of him not just as a cool planful scientist, or prophet in the broad aspects of medical science, but as a warm friend, and wise counsellor, and we expectantly look forward to the next phase in his productive career.

CAN WE MEET THE FORMIDABLE DEMAND FOR PSYCHOLOGICAL SERVICES?

EDITORIAL COMMENT

This issue of *The American Psychologist* contains articles covering three phases of the psychological service programs of the Veterans Administration. Since these programs overshadow all other procurement and training problems in psychology, it is well to consider them in the broader context of general professional development. In conjunction with the demands for counseling and clinical services of the Office of Vocational Rehabilitation of the Federal Security Agency and of state-supported clinical work, the total personnel needs of these service programs alone could exhaust the available supply of qualified personnel in all fields of psychology. This concentration of demand in one group of psychological specialties may create a trend toward defining applied psychology as primarily a clinical and therapeutic endeavor, to the detriment of other research and applied activities in which psychologists have made real contributions.

There should be no underestimation of the gravity of this problem. Since psychological functions have been written into public laws, these functions will have to be discharged regardless of the supply of adequately trained psychologists. Due not so much to concerted Association-wide planning, as to the successful work and professional efforts of many individual psychologists, psychology has been badly oversold; we cannot deliver the required number of qualified personnel. A few highlights of procurement and training problems will illustrate the situation at the threshold of our avowedly professional existence.

Dr. Miller's article describes the Veterans Administration program in clinical psychology, and the special training thereof, that is administered by the newly-created Department of Medicine and Surgery (Public Law 293). A graduate student under this training program can earn almost as much as a psychometrist employed full-time in the vocational advisement program described in the article by Drs. Scott and Lindley. Granting that some of the over-all needs for medical and psychological services

to disabled veterans are legitimately met by the combined work-training program proposed, one may still question the effect on the future of psychology of this heavily stimulated procurement of clinical psychologists. With the fiscal year beginning 1 July 1946, there will be approximately 350 service positions in the Civil Service range P-3 through P-6 in the program described by Dr. Miller, plus approximately 200 positions for graduate students in training.

It is worth mentioning in this connection that all existing provisions of Public Laws 16 and 346, as amended, are applicable to any veteran interested in psychological training at the graduate and undergraduate level.

The article by Drs. Scott and Lindley describes the vocational advisement program in which currently over 1,000 vocational advisors from the P-2 through P-6 levels are employed and in which approximately 1,500 more positions remain to be filled. In addition, it is contemplated that approximately 500 Personal Counselors will be employed at least at the P-4 level. The minimum educational requirement is tentatively set at the master's degree. While the training program of this service has not been formally announced, it is known that the Advisement and Guidance Service will undertake contracts with universities and colleges to provide intensive courses, carrying graduate credit in various counseling specialties: personal counseling; tests and measurements; educational-occupational information; research techniques; and counseling with mentally or physically handicapped cases. Traveling expenses, tuition, and a per diem charge will be borne by the Veterans Administration.

The article by Dr. Mathewson describes the program of a guidance center maintained under contract with the Veterans Administration. A recent survey by Darley and Marquis¹ gives a broader picture of

¹ DARLEY, J. G., and MARQUIS, D. G., Veterans' Guidance Centers: A Survey of Their Problems and Activities. *Journal of Clinical Psychology*, 2, April, 1946.

these centers: the modal education of the counselors is the master's degree, and the modal education of the psychometrists is the bachelor's degree. Assuming, conservatively, three full-time workers per center, the 400 centers contemplated would require 1,200 professional workers, all employed directly by the university or college holding the contract.

Thus the Veterans Administration alone, including its contractual arrangements, represents a demand for approximately 4,700 clinical psychologists and vocational advisors in full-time work or in training. And these jobs will be filled, even though the procurement ranges through the fields of education, social work, industrial and business personnel, and recreational work.

A recent article by Dabelstein² describes the program of the Office of Vocational Rehabilitation of the Federal Security Agency, which operates under Public Law 113, and which matches Federal and State funds for state-supervised rehabilitation services. He estimates that the states can absorb 2,100 professionally trained workers to handle the seven persons per thousand eligible for and in need of rehabilitation under Public Law 113. Because, in past years, state civil service employment has seemed even less desirable to psychologists than Federal Civil Service, the major procurement source has been the field of education. The professional training needs of this program have been overlooked; no university today offers specific professional and psychological training for vocational rehabilitation work.

To complicate the picture further, the War Mobilization and Reconversion Act of 1944 (Public Law 458) gives statutory responsibility to the Retraining and Reemployment Administration for "supervising and coordinating all Government programs at the national level—except those of the Veterans Administration—as they relate to retraining, reemployment, vocational education and vocational rehabilitation." The impact of this agency is seen in the fact that it has fostered the establishment of approximately 2,300 local advisory centers for veterans and displaced war workers, working through whatever state agency has coordination responsibility for veterans' affairs. These

local advisory centers are being urged to do vocational, educational, and personal adjustment counseling, using volunteer or paid workers available in the local community. It is probable that the strongest contributors in these centers will be the local social agencies, operating essentially with social case work techniques in counseling fields in which they are marginally trained, and with a professional organization considerably stronger than ours.

These are the *service* demands being made upon psychology today. To them must be added the needs of the Army and Navy for civil service personnel and for institutional research contracts, to carry on a wide range of personnel and psychological research activities. These institutional research contracts may be one means of employing competent graduate students for straight research activities and training, in competition with the financial advantages open to graduate students, who choose service and clinical fields.

To the American Psychological Association Office, it seems as if the ivory tower had literally been blown out from under psychology. Even though the techniques of psychology come to be used by those upon whom we have not set our stamp of approval, we shall bear the onus of the misuse of these techniques in the eyes of the public. We dare not turn our backs on this situation. The short-time solution is beyond our reach: the agencies involved will procure marginally qualified people, who will make marginal use of a wide range of psychometric and psychotherapeutic techniques. The long-time solution must be evolved by the action of many APA committees. Pending long-range planning, departments and individual psychologists must consider undertaking proselyting, short courses and training institutes, part-time consulting and committee services, accelerated training of graduate students, licensing arrangements, and revised membership standards of service Divisions, as means to the end of protecting our professional stature. If we fail to do this now, some of the functions claimed as our province will fall into the hands of related groups in medicine, psychiatry, social work, education, and industrial or business management. We will furthermore dissipate the reservoir of good will created by the excellent work done by psychologists in the recent war years.

—JOHN G. DARLEY AND DAEL WOLFLE

² DABELSTEIN, D. H., Counseling in the Rehabilitation Services. *Journal of Clinical Psychology*, 2, April, 1946.

CLINICAL PSYCHOLOGY IN THE VETERANS ADMINISTRATION

JAMES G. MILLER

Chief, Division of Clinical Psychology, Neuropsychiatric Service, Veterans Administration

THE addition of 16,000,000 new veterans of World War II to the 4,000,000 of previous wars has thrown upon the Government of the United States a great responsibility. The situation demands that the Veterans Administration think in big terms—in large sums of money and in large numbers of personnel—and it is doing this in the field of clinical psychology as well as its other activities.

When the positions which psychologists can hold in the Vocational Advisement and Guidance Division and the Division of Clinical Psychology are added together, they number well above the total of all qualified clinical psychologists in the country. There is every reason to suppose that the demand will not greatly diminish for many years. If the policies now operative in the Veterans Administration continue, the funds expended for the salaries of psychologists alone will mount into the millions of dollars. All of this has far-reaching importance for the psychological profession. It presents a challenge to the nation's psychologists to enter into new fields of practice and research, to assume new responsibilities to which they have not traditionally been accustomed, and to take an important place in society's task of renewing and maintaining the mental health of the country's veterans.

PROFESSIONAL AND SOCIAL IMPLICATIONS OF THE PROGRAM OF THE VETERANS ADMINISTRATION

Before the war the profession of clinical psychology had little organized self-consciousness, despite the existence of various associations established to further the interests of the field. One of the chief reasons for this was the fact that it was almost impossible to find anywhere a well-rounded and complete program of education for the practice of clinical psychology. Either training was in the basic experimental and academic tradition of American university psychology, in which research and teach-

ing were permanent considerations and the application of the principles learned was only incidental; or training was obtained almost wholly in the hospital, sanitarium, guidance clinic, prison, or social agency under the supervision of psychiatrists and others not trained or skilled in psychology proper. All too commonly, training was an individually determined hodge-podge of poorly integrated university courses, clinical internships, private study of special techniques, and unsupervised practice. There was no agreement throughout the country on how curricula should weave together all the divergent strands into a properly designed education for clinical psychologists.

Necessity of the war mobilized the resources of clinical psychology in a way comparable to the mobilization of the resources of physics and chemistry. Proper selection of personnel and maintenance of their mental health were essential to keep the forces fighting. As a consequence, psychiatry came into its own for the issue of mental health bulked large among the nearly insoluble problems of the war. There simply were not enough psychiatrists to handle the case load, and physicians could not be given adequate training rapidly enough to do the work. Moreover, it became recognized that the diagnostic skills of psychologists and their superior understanding of the principles of normal behavior and how these can be applied to problems of personal adjustment were invaluable adjuncts to the medical profession. The result was that psychologists in the Army, Navy, and other military organizations were given tasks of great responsibility and professional importance.

Although there still are exceptions, the attitude of the medical profession in general and psychiatrists in particular toward clinical psychologists has changed profoundly. At one time a definite "pecking order" existed, the psychologists submitting to the superior authority and training of the phy-

sician. Disaffection between the two professions was wide-spread, engendered by their different training and goals, as well as by the unfortunate sense of inferiority resulting from the hierarchy. But now it is commonly agreed that each profession has its characteristic tasks with a vague region of overlapping functions in some areas. The concept of the psychiatric team composed of neuropsychiatrist, clinical psychologist, and psychiatric social worker, each with his complementary activities, is generally accepted.

Clinical psychology did much during the war to improve the practice of psychiatry by making available to the psychiatrists old and new procedures for diagnosing personality and mental disease. Furthermore, it is probable that a majority of military clinical psychologists carried on psychotherapy in certain types of cases. Almost always this was under the direction of, or in collaboration with, psychiatrists or medical officers who attended to the somatic problems involved, but nevertheless in the military situation, working together as a team, both professions did nearly similar tasks for patients without somatic involvement or serious mental abnormality. This was therapy and it was called "therapy"—recourse was rarely had to the euphemism "counseling".

At the same time that these developments were occurring in the armed forces, the psychological profession received further recognition by legislation in certain states to permit them to practice. It is clear that in the future psychotherapy will be explicitly among the usual tasks of clinical psychologists, but it is essential for the protection of both patients and psychologists that this practice be conducted in the medical framework with no trespassing into fields of surgery, diet, the use of drugs, or similar procedures which are proper precincts for the medical profession.

Now that the fighting is over and the forces are largely demobilized, if the American tradition of private medical care were to reassert itself completely, the treatment of mental disease in our soldiers and sailors would in most cases return to the wholly inadequate practices that once prevailed. But America is not irresponsible in matters concerning veterans, and with renewed vigor at the present time the health and welfare of this segment of our population is being looked to by the Government. At

least for this group a sort of socialization of medical care exists and has existed for many years. With the coming of new chiefs to the Veterans Administration, General Omar N. Bradley as Administrator and Dr. Paul A. Hawley as Chief Medical Director, there is renewed intention to make available to veterans the most advanced and efficient medical care in all fields, including psychiatry. After the war years this naturally includes an integral role for clinical psychology. Since psychiatric care is commonly prolonged and expensive, fewer veterans can pay for it than can afford cheaper types of medical care. Hence a greater percentage of neuropsychiatric patients will become charges of the Veterans Administration than those with other sorts of illness. On April 1, 1946 there were approximately 44,000 neuropsychiatric patients in Veterans Administration hospitals but only 30,000 patients of all other types.

With the rising morbidity rate of mental disease, demand for psychiatrists and psychologists will increase. This demand will occur because of the necessity of implementing the social responsibility which has been assumed for treating the largest part of mental disease of veterans—a segment of the population which now represents about one-seventh of all America. The significant and inevitable consequence of this development is that a large portion of the whole profession of clinical psychology will come under Governmental control.

DESIGN OF THE PROGRAM

It is proposed to employ clinical psychologists in at least five sorts of installations in the Veterans Administration: (a) Mental Hygiene Clinics; (b) Neuropsychiatric Convalescent Centers in general medical and surgical hospitals; (c) Neuropsychiatric hospitals; (d) Paraplegia Centers in general hospitals; and (e) Aphasia Centers in general hospitals.

(a) The Mental Hygiene Clinics are products of a new mode of thought in the Veterans Administration. These clinics, which are established in the regional offices of the Veterans Administration and may eventually number fifty or more, being established in most of the large cities of the country, constitute an effort at preventive psychiatry. If it is possible to diagnose mental disease early and to treat it while the patient is still able to carry on his life in the community, there is a good chance

that he can keep out of the hospital. Once he has been institutionalized, his rate of improvement is slowed down in part by necessary administrative delays but much more by the decrease in motivation and general loss of morale which develops with hospitalization. Unless such prevention can be accomplished, the number of neuropsychiatric cases is likely to multiply many fold with the years, as it did after the last war. And since there are so many more veterans this time, neuropsychiatric hospitals for them will dot the countryside of America as graves dot the fields of China.

Because many of the problems which will be dealt with in mental hygiene clinics are questions of adjustment or re-education within the normal range, or treatment in which personality diagnosis is of central importance, clinical psychologists will undoubtedly play an important role. It is contemplated that their numbers will approximately equal those of the psychiatrists and that there will be a minimum of two psychologists in each clinic. At present there are thirty-two such clinics definitely authorized, approximately thirteen being in operation.

(b) Much rethinking has been done in recent months on the question of the operation and design of general Veterans hospitals. A number of new such hospitals are being constructed, usually near leading medical centers. The new plans are based on the progressive assumption that a neuropsychiatric service is a necessary integral part of a general hospital. The service would deal chiefly with acute psychiatric illnesses and mental abnormalities associated with physical illnesses. Patients requiring long-term institutionalization would probably be transferred to neuropsychiatric hospitals. Eventually all general hospitals are to have neuropsychiatric services, and associated with them it is contemplated to establish Convalescent Centers. These centers will take some out-patients of the sort the Mental Hygiene Clinics will treat, but they will have the added advantage of being directly associated with the hospital, so that patients needing short-term bed care may receive it in the same institution.

Although none of these Convalescent Centers is in operation yet, positions for two clinical psychologists have been authorized for each one, and a number of assignments of psychologists to these jobs

have been made. These men are assisting in developing the plans for the centers.

(c) In some ways the work of the clinical psychologists in neuropsychiatric hospitals differs from that in other Veterans clinics. Of necessity these hospitals must contain a large number of chronic cases, such as schizophrenics, senile patients, and patients with cerebrovascular accidents. Little psychotherapy can be carried out in such cases, and the diagnostic procedures needed for them are limited. On the other hand, this group of patients offers challenging opportunities for research. Moreover, each neuropsychiatric hospital will have a large number of more acute cases, psychotic in-patients and out-patients and psychoneurotics, needing individual or group therapy, who present fertile ground for research in clinical psychology.

(d) It is planned that in five general hospitals throughout the country, centers will be established solely to treat paraplegics, those veterans seriously handicapped in using their legs as the result of spinal cord injuries. Paraplegic patients require much retraining and reeducation, which properly comes into the field of clinical psychology, and it is expected that psychologists will form an important part of the therapeutic team, at least two of them being assigned to each center and having responsibility for individual and group retraining, as well as other functions.

(e) In the formative stage are plans for Aphasia Centers in the same hospitals as the Paraplegia Centers. A minimum of two or three hundred aphasic patients at present require hospitalization and extensive retraining. Most of these have traumatic lesions incurred during the war. The psychological problems involved in the re-education and rehabilitation of aphasics are similar to those for paraplegics, and this is the rationale for locating the two types of centers in the same hospital. Unquestionably, a fair number of clinical psychologists trained in speech pathology will be needed by the Veterans Administration for working with the aphasics as well as other types of speech disorders, including stuttering and stammering.

In all these positions the clinical psychologists will have important diagnostic, therapeutic, and research functions. Diagnosis of personality characteristics will remain the primary task of the psychologist, for his training makes him better qualified

than the psychiatrist in this field. He will also have therapeutic duties, but in conducting these he will always recognize the necessity of operating within the medical framework. Not only will this arrangement protect him in legal questions concerning the practice of medicine, but also the question of the multiform interrelationships between physical and mental disease will be under careful surveillance and control. An effort has been made to describe in detail the therapeutic role which qualified clinical psychologists may assume in the Veterans Administration and this role has been stated as follows:

"The clinical psychologist will carry out individual or group therapy under direction of the responsible neuropsychiatrist. This means that the neuropsychiatrist will first review the case and decide whether it is the type of problem which may reasonably be handled by a clinical psychologist. If the case involves such fields as readjustment of habits; personality problems within the normal range; educational disabilities such as reading defects, speech impairments, or similar difficulties requiring re-education; or relatively minor psychoneurotic conditions without important somatic components, the patient may be referred to a clinical psychologist for individual or group treatment. The Chief Neuropsychiatrist will delegate such therapeutic duties only when he believes the individual clinical psychologist to be fully competent to carry them out. The clinical psychologist periodically at staff meetings or other times will report to the responsible neuropsychiatrist on the progress of the therapy and consult with him as to further measures to be taken."

From the long-range point of view it may well be that clinical psychologists, trained as they are in test construction, experimental design and scientific method, and the independent conducting of research, will make their most significant contribution to the program in the field of research. Studies can be so devised as to advance basic science at the same time as they make a direct contribution to the welfare of the individual patients. It is contemplated that research will be encouraged at each local station by making clinical material available for study by psychiatrists and psychologists and by exerting every effort to stimulate publication. More-

over, it is hoped that research can be organized on a national basis, in order to compare, under controlled conditions, various diagnostic and therapeutic techniques. For instance, it might be possible to use a different sort of intelligence or projective test at each of several different installations and thus make comparison of their relative effectiveness on large similar populations. Or it might be possible for psychologists to make extensive assessments of personality before and after treatment in order to measure as accurately as possible the efficacy of the therapy. If, for example, carefully controlled methods of therapy were used, differing from clinic to clinic (e.g. shock at one clinic, hypnosis at another, depth therapy at another, pharmacotherapy at another, and simple suggestion and reassurance at another), on patients with a single diagnosis, accurate data at present wholly unavailable as to the relative values of different therapeutic techniques could be obtained. Since such a large population of patients will be treated by the Veterans Administration and careful records may be kept not only of life history data but also of the results of diagnostic procedures and therapy, tremendous opportunities for advancing the mental sciences are available. It is obvious that such a program could have important results upon the problems of preventive psychiatry.

PROFESSIONAL STANDARDS

Since the Veterans Administration is the largest single employer of clinical psychologists at the present time, it has an important role to play in the establishment of standards in the profession which is struggling for group self-consciousness and recognition. At the suggestion of many advisors in psychiatry and psychology, the policy has been adopted of requiring of all appointees in the program this essential triad: adequate personality traits of judgment, clinical insight, tact, interest in people, motivation for psychological work, and professional attitude; sufficient experience of proper clinical type; and a thorough-going educational background. These principles have been translated into the following practical terms of qualifications for the various grades of psychologists, which are in general similar to those maintained by certain other government agencies.

The minimum educational requirements for clinical psychologists at the P-3 grade, base salary \$3,640,

the lowest grade in the program, are successful completion in a college or university of recognized standing of all requirements for a doctor's degree in psychology or courses covering subject-matter commonly taught in the following fields: (1) Abnormal psychology, clinical psychology, mental hygiene or personality adjustment (two such courses). (2) Clinical techniques, such as individual testing, interviewing, or the case-study method (two such courses). (3) Differential psychology, tests and measurements (educational, vocational, psychological personality, attitude), or statistics (two such courses). (4) Human biology, neurology, or physiological psychology (one such course). (5) Three courses in general, experimental, child, adolescent, social, animal, or systematic psychology or additional courses from among those listed in the foregoing sections (three such courses). For grade P-4 and above, the educational requirement is a doctor's degree in psychology from a college or university of recognized standing.

The minimum experience requirement for a clinical psychologist at the P-3 grade is two years of acceptable clinical experience; at grade P-4, base salary \$4,300, three years; at grade P-5, base salary \$5,180, four years; and at grade P-6, base salary \$6,230, five years. This experience must be such that it indicates that the applicant has the ability to examine maladjusted individuals for diagnostic and therapeutic purposes as a means to their adjustment, and there must be evidence that the candidate assumed progressively greater responsibility throughout the years.

Acceptable clinical experience is defined as follows: (a) the application of a variety of psychological principles and techniques under the supervision of, or in consultation with, a qualified psychiatrist attached to a clinic, a branch of the armed forces, or any other organization whose functions include aid to maladjusted individuals; or (b) teaching in the field of clinical psychology, which must have been associated with work in a psychological clinic of a training institution or college or university of recognized standing.

The educational requirements for clinical psychologists who are speech pathologists differ only in that they require training in speech and some of the applicant's clinical experience must also have been in this field.

The thirteen branch chief psychologists throughout the country hold the grade of P-6. These must be mature and experienced men, for each will direct the training and professional activities of psychologists in several states and will undoubtedly have an important influence on the whole community. Under them will be P-5 chief clinical psychologists of large stations, P-4 chiefs of small stations, and P-3 psychologists.

The advantages to the profession of clinical psychology as a whole in setting rigid standards are obvious, and they will redound to the advantage of each individual clinical psychologist even if in some cases apparent injustices exist for a short time as a result of the fact that men who have not been able to complete their education because of years spent in the armed services cannot receive appointments to the higher grades. A large number of appointments are still open at the P-3 grade for such men, and they may be considered for promotion when they complete all requirements for higher grades. Clinical psychologists are receiving comparable responsibilities with psychiatrists, and if they are to retain the respect of their professional colleagues, they must maintain comparably high standards. Just as no one would expect a physician to practice without a medical degree, so clinical psychologists should not be expected to assume their full responsibilities without a doctor's degree in psychology. Moreover, it is essential that this training be not wholly academic, but that real experience be obtained in the clinical techniques which can be learned only in the doing. So a doctor's degree in psychology alone is by no means qualifying for these positions.

THE TRAINING PROGRAM

Since there is a great dearth of clinical psychologists possessing the proper qualifications of personality, experience, and education, it is the responsibility of the psychological profession to see that new men are trained. Unfortunately, there are few universities at present qualified to give a well-rounded education in both academic and practical aspects in clinical psychology. A few good plans such as that of the Subcommittee on Graduate Internship Training of the AAAP have been suggested for curricula in this field, but most of the training institutions are lacking in adequate faculties and facilities for such teaching and their curricula have by no means been standard-

ized. Moreover, some good universities adhere to a highly theoretical approach to psychology which is totally unsatisfactory preparation for clinical work. It is a great challenge to American universities in general to revamp their curricula radically in order to give adequate training in clinical practice.

Nevertheless, the Veterans Administration has embarked upon a plan for training in connection with the universities which have been recognized by the American Psychological Association as able to give complete training in clinical psychology to the doctor's degree. Present legislative regulations make this program of training especially interesting to veterans, though non-veterans may also enroll under it. The details of this program are stated in the following directive:

TRAINING PROGRAM FOR CLINICAL PSYCHOLOGISTS
ASSOCIATED WITH PART-TIME WORK IN V. A.
STATIONS WHERE NEUROPSYCHIATRIC
CASES ARE TREATED

1. A candidate for employment under this plan must be a citizen of the United States. Either a veteran or a non-veteran may be accepted for training, but as will be seen below, the benefits available to veterans will be appreciably greater than those available to non-veterans, because the veterans will benefit from the "Servicemen's Readjustment Act of 1944" as amended (Public Law 346, 78th Congress) or the "Vocational Rehabilitation Act" (Public Law 16, 78th Congress). In every instance preference for such training will be given to veterans.

2. A candidate for employment must have received a bachelor's degree from a recognized college or university. He must have taken a beginning course in psychology and at least one other course in the general field of clinical psychology, abnormal psychology, test construction, or statistics. He must also have taken at least one course each in general biology, in one other science, and in one social science. He may or may not have done graduate work in psychology. Under the program contemplated at present, individuals who have doctor's degrees in psychology will be accepted if they wish to change their field of specialization to clinical psychology, but the program of training outlined herein is basically predoctoral. All candidates must sincerely intend to complete training for the doctorate in psychology and to remain in the field of clinical psychology. It will be expected that trainees who

complete this program will continue to work for the V. A. and every effort will be made to encourage them to do so.

3. Candidates are selected by the Department of Psychology of any university recognized by the American Psychological Association as qualified to give complete training in clinical psychology. Selections are made from applications that come to their attention, according to the established standards of that university. The number that they may select is limited only by the availability of teaching staff or clinical facilities. In general, universities have stated that they can accept between five and twenty such candidates at different levels of advancement. Two hundred positions will be authorized, which will be available at any of the four levels of advancement mentioned below. These positions will be apportioned to the various universities cooperating with the program according to the number of trainees which their facilities permit them to accept. The names of candidates who have been selected by the universities are then submitted to the Chief, Division of Clinical Psychology, Neuropsychiatric Service, Department of Medicine and Surgery, V. A. for approval and processing. When a name has been approved, the candidate will be hired by the V. A. and detailed to a V. A. hospital, mental hygiene clinic, or other station near the university of his choice.

4. Each Trainee will be expected to spend at work in V. A. stations 1,056 hours a year (22 hours a week times 48 weeks) so long as the V. A. is on a 44-hour week, and proportionately less if the schedule is returned to the basic 40-hour week. Additional summer work may also be obtained, when the university is not in session. The rest of his time may be devoted to training under the direction of the Department of Psychology at his university, carried on either at the V. A. station, at the university, or elsewhere. The programs of individual candidates will be worked out between the managers of the V. A. stations and the Chairman of the Department of Psychology, and every effort will be made to arrange assignments of time in the way which seems best to the Department of Psychology. Trainees need not necessarily work the same hours or the same number of hours every week, for they will be paid on an hourly basis.

5. The universities will be responsible for planning curricula and for deciding how much training should

be carried out at the university or elsewhere and how much at the V. A. station. The only limitations are that this program conform in general to recognized curricula giving a broad training in clinical psychology, and that the trainee spend the required number of hours at the V. A. station practicing clinical psychology. Trainees may be, for a period of time, sent to clinics where the training is accredited, even if they do not treat veterans, in addition to working for the V. A. It is suggested that the training schedule be compatible with the program suggested by the Subcommittee on Graduate Internship Training to the American Association for Applied Psychology (*J. Consult. Psychol.*, 1945, 9, 243-266). This would allow for the internship in the third year recommended by that Subcommittee, which internship may be at a V. A. station, not necessarily near the training university.

6. Candidates for this training program will fall into four groups:

a. *First Year Trainee* (Classification Title: First Year Psychological Intern). As a First Year Psychological Intern, administers simple psychometric tests, chiefly of intelligence. Interprets these findings in the light of details of the case history; for example, where physical or mental disabilities interfere with the test administration or results, and makes factual reports on these results to supervising psychologists and psychiatrists. P-1, base full-time salary \$2,320.

b. *Second Year Trainee* (Classification Title: Second Year Psychological Intern). As a Second Year Psychological Intern, administers a wide range of psychological examinations, procedures, and test situations, including intelligence tests, personality inventories (e.g., Bernreuter, Minnesota), attitude tests, vocational and other types of aptitude tests, projective procedures (e.g., Rorschach, Thematic Apperception Test), group situations (e.g., psychodrama and leadership tests), and other related techniques. Interprets the significance of the above findings as they relate to the facts of the entire case history; makes reports of these results to supervising psychologists and psychiatrists. P-2, base full-time salary \$2,980.

c. *Third Year Trainee* (Classification Title: Third Year Psychological Intern). As a Third Year Psychological Intern, administers a wide range of psychological examinations, procedures, and test situations, including intelligence tests, personality

inventories (e.g., Bernreuter, Minnesota), attitude tests, vocational and other types of aptitude tests, projective procedures (e.g., Rorschach, Thematic Apperception Test), group situations (e.g., psychodrama and leadership tests), and other related techniques. Interprets the significance of the above findings as they relate to the facts of the entire case history; makes reports of these results and recommends as to treatment or disposition of the case to supervising psychologists and psychiatrists; interviews patients in the hospital or clinic and other persons who have relationship to the patients for purposes of diagnosis, counseling and guidance on matters of mental health and related subjects; under the direction of a psychiatrist does therapy. P-3, base full-time salary \$3,640.

d. *Fourth Year Trainee* (Classification Title: Fourth Year Psychological Intern). As a Fourth Year Psychological Intern, administers a wide range of psychological examinations, procedures, and test situations, including intelligence tests, personality inventories (e.g., Bernreuter, Minnesota), attitude tests, vocational and other types of aptitude tests, projective procedures (e.g., Rorschach, Thematic Apperception Test), group situations (e.g., psychodrama and leadership tests), and other related techniques. Interprets the significance of the above findings as they relate to the facts of the entire case history; makes reports of these results and recommends as to treatment or disposition of the case to supervising psychologists and psychiatrists; interviews patients in the hospital or clinic and other persons who have relationship to the patients for purposes of diagnosis, counseling and guidance on matters of mental health and related subjects; under the direction of a psychiatrist does therapy. Carries on psychological research and investigation in questions of mental health. Instructs other interns in psychological principles, their application, and in simple psychological techniques. P-3, base full-time salary \$3,640.

7. Salaries and benefits received by trainees and universities will be calculated as follows:

a. Eligible veterans will have the benefits available through either Public Law 346, 78th Congress (Servicemen's Readjustment Act of 1944) or Public Law 16, 78th Congress (Vocational Rehabilitation Act). This would constitute an on-the-job training program under these laws. An example can illustrate how this would work out: A married veteran

who applied for appointment as a First-Year Trainee would receive \$90.00 a month, \$1,080 a year from Public Law 346 and more if entitled to benefit from Public Law 16. Besides this he would be entitled to have his tuition, books, and other supplies paid for at the rate of any amount up to \$500 per academic year under Public Law 346 or in full if a trainee under Public Law 16. Furthermore, as a half-time (average week 20 hours) First Year Psychological Intern working for the V. A. in the P-1 grade he would receive at the present rates, not counting over-time, \$1,160 a year. These credits total \$2,740 per annum, assuming he followed no accelerated academic program. The tuition rate will be the customary rate charged all students in such courses; or, if such rate be insufficient to permit the institution to give the instruction desired, a rate in excess thereof, but not to exceed \$1,000 per academic year, established by agreement between the university and the V. A. pursuant to paragraph 2, section 2, Public Law 16 (additional facilities) or paragraph 5, Title II, Public Law 346 as amended (cost of teaching personnel and supplies for instructions). Each university would be entitled to receive from this man, by a voluntary agreement which he would be required to make as a condition of enrollment as a trainee, up to \$1,000 per academic year, according to how much the university could demonstrate to the V. A. it would cost to give him this special type of training at the university and the V. A. stations. Under Public Law 346, part of this money (the amount up to \$500 allowed for tuition—which may for this program be at rates above those usually charged if the V. A. agrees that this is proper) will be paid directly to the university by the Government, as in the case of other students training under this law. The students may also elect to have more than \$500 paid by the Government in any academic year by an accelerated plan which will use up their eligibility for such aid more rapidly. The Government will pay the full amount up to \$1,000 per academic year for students entitled to the benefits of Public Law 16. The difference between what the Government pays and the total amount up to \$1,000 per academic year which the university believes it needs to pay for proper training, would be paid by the trainee. If, in the illustrative case, the candidate received a total credit of \$2,740 and the university charged the maximum amount of \$1,000, he would still have \$1,740 a year to pay for living expenses. It is possible that this

sum might be increased by over-time pay, by working more hours for the V. A. during summer months, or by wage increases at present pending in Congress.

b. Non-veterans will, of course, receive none of the benefits in payment for subsistence, tuition, books or supplies which the veterans receive. They can, however, be appointed to part-time positions in V. A. stations and receive these salaries. The total charges by the university to non-veterans shall be the same as to veterans.

c. When the trainee has completed a year's employment with the V. A. and has successfully completed his year's work with the university, he will be eligible for promotion to the next higher rating. A second-year trainee will receive for half-time (average week 20 hours) work \$1,490 a year; a third-year and a fourth-year trainee will receive \$1,820. These increases will result in extra funds available for living expenses. A married veteran who is a third-year or fourth-year trainee paying \$1,000 to the university will receive besides as much as \$2,400 per annum, not counting over-time or other increases. Promotion from one grade to a higher grade will be made by V. A. upon evidence of satisfactory completion of the previous year's work at the university and the V. A. station. If a man fails to do satisfactorily, he will not be continued as an employee of the V. A.

d. The money received by the university from a trainee or from the Government, amounting to any sum beyond rates usually charged for tuition because of the specialized character of his training, may be used by the university in any way it sees fit—to pay the salaries of extra members of the faculty hired to help carry the load of this program, to increase the salaries of present members of the faculty, or to pay administrative expenses.

e. This scale of grades and salaries will allow for a four-year training program for the doctorate (including one year of internship). Properly qualified candidates may enter the program at any stage. Both length of clinical experience and amount of academic achievement may be considered in deciding at what stage a trainee enters the program, but he must never be admitted to a grade so high that he could not complete work for his doctorate by the end of his fourth year and also have had enough clinical experience to qualify him for a V. A. position.

8. During any time a trainee shall be temporarily assigned to a V. A. Hospital or institution where quarters and subsistence are furnished, he shall be

charged by this V. A. Hospital or institution the current rate for these services.

9. Applicants for training under the above program will submit to the university concerned Standard Form 57 completed in duplicate and, if applying under the terms of Public Law 346, a voluntary contract to pay to the university the difference between the tuition allowed him by Public Law 346 and the amount up to \$1,000 per academic year which the university decides to charge for the training. The university will forward to the Chief of the Division of Clinical Psychology, Central Office, V. A. the Forms 57 if it accepts the applicant as a graduate student, together with a recommendation as to what level of internship he should be appointed to and the reasons for this decision. Final approval will be made by the Central Office. Universities will arrange the financial details of the training of students under Public Law 346 or Public Law 16 with the Regional Office of the V. A. in the same way they would for other students taking training under the terms of these laws.

10. Members of Departments of Psychology of universities may be appointed as part-time consultants to the V. A. in order to advise on difficult questions of clinical practice and to work on research programs in the V. A. In this capacity they shall also supervise employees of the V. A. including trainees, in carrying out psychological research. These consultants will be paid at the rate of \$50.00 for a "visit" of 3 to 4 hours for full professors and proportionately less for lower ranks, according to the usual scale of the Department of Medicine and Surgery. Not over \$6,000 in 12 months is authorized to any one person.

11. Statistical information and other data compiled in connection with studies carried out in the V. A. may be used by the employees who collect the data, including these trainees, for implementing personal studies such as doctoral dissertations, provided that they are used in such manner as not to violate the laws and regulations with reference to the disclosure of information. Before being released these data must be cleared by the office of the Chief of the Division of Clinical Psychology, V. A.

12. If any Department of Psychology desires to do so, it may arrange to present brief seminar courses or brief intensive courses of instruction not exceeding 90 days to employees of the V. A., with or without doctor's degrees in psychology, for the purpose of

raising and maintaining at high levels the standards of psychological practice and research. These seminars may carry credit in the graduate curriculum of the university, but this would not necessarily be true, and a decision on this matter would be up to the university. Special arrangements may be made for paying tuition and salaries and other expenses involved in such courses apart from the program described above. These brief courses will be sponsored by the Department of Medicine and Surgery of the V. A. and are distinct from the brief intensive courses being planned by the V. A. Advisement and Guidance Service.

13. The V. A. is responsible to Congress and the people for expenditures of appropriated money and for the proper care of veterans. Therefore, the V. A. reserves the right to subsequent approval of all appointments of employees and of assuring itself from time to time that courses of study, standards of teaching, and quality of work done by trainees are in line with the proper carrying out of obligations. When trainees are assigned to V. A. institutions for on-the-job training under supervision, responsibility for training will be delegated by the V. A. to the Chairman of the Department of Psychology of the training university; responsibility for patients will reside in the V. A.

It is hoped that this training program will be in operation in a number of universities throughout the country by next September. Further details about its operation may be learned from the universities concerned, and information on all aspects of the Veterans Administration clinical program may be obtained from the office of the Chief of the Division of Clinical Psychology, Central Office, Veterans Administration, Washington 25, D. C., where all appointments are at present being made.

SUMMARY

An integrated program of clinical practice, research, and training is being developed for psychologists in the clinics and hospitals of the Veterans Administration. The number of patients is very large and will undoubtedly increase greatly as the years go by. To individuals wishing to devote themselves to professional service applying psychological principles, this clinical program offers a wealth of attractions. The field is rapidly expanding and the opportunities for service and research are almost limitless.

THE ADVISEMENT AND GUIDANCE PROGRAM OF THE VETERANS ADMINISTRATION

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THE Federal legislation providing vocational rehabilitation, education and training for veterans of World War II has placed upon the administrative agencies and educational institutions responsible for carrying out the program an obligation to develop advise ment and guidance services on a scale never before contemplated. The immediate and primary aim of veterans of this war is security for themselves and their families and a chance to pursue chosen civilian careers. For some of these men and women the course ahead is relatively simple. They have jobs which they want and can return to, or they are anxious to resume particular education or training that satisfies their ambitions. However, there are other individuals among the veterans whose vocational plans are not so well defined. Some are dissatisfied with their former jobs. Some of them had never planned a civilian career, and in fact, had no other occupational experience than that gained in the service. Many such persons are uncertain what to do next, and cannot decide whether to take further training or look for a job immediately. A great many are disabled and unable to take up their former occupations or to prepare for the occupations they once considered. For the great majority knowledge of jobs and employment fields has been subordinated to the performance of military duty for three or four years. These veterans have lost contact with the civilian world of work, and in readjusting to civilian life must become oriented to vocational trends and the existing employment situations as they relate to their occupational adjustments. Inasmuch as a wartime emergency demanded that the nation mobilize and train millions of men to become successful fighting units, peacetime demobilization places upon the nation a heavy obligation to assist these veterans in a satisfactory conversion to their rightful civilian status with careful regard for their educa-

tional and occupational adjustment and their related social and emotional problems.

LEGISLATION

The legislative enactments passed by the Congress and approved by the President provide vocational rehabilitation, education and training for veterans of World War II. Public Law 16, 78th Congress, as amended by Public Law 268, 79th Congress, provides for the vocational rehabilitation of any eligible veteran who has a pensionable disability and who is in need of vocational rehabilitation to overcome the handicap of such disability. Before veterans can undertake training under the provisions of this statute, they must receive counseling provided by the Veterans Administration. The Servicemen's Readjustment Act of 1944, commonly referred to as the "G. I. Bill of Rights", (specifically Title II, Public Law 346, 78th Congress, as amended by Public Laws 268 and 190, 79th Congress), provides for the education or training of any eligible veteran regardless of whether or not he was discharged from the service by reason of a service-incurred disability. Guidance is likewise provided for eligible veterans who request it in connection with education or training under this law.

PROBLEMS POSED BY LEGISLATION

The implications of this legislation are far-reaching. At no time in the history of the guidance movement has such an ambitious program been conceived or put into operation. From the standpoint of organization and administration the following problems are outstanding: (1) the creation of operating facilities with proper regard to making the best use of existing institutions for rendering guidance services, the practical distribution of authority and responsibility, and the sound expansion of the service; (2) the selection and training of personnel

to render professional counseling services; (3) the interpretations of the provisions of the law in terms of over-all philosophy and in terms of the greatest possible service to be rendered to the veteran; (4) the preparation of counseling aids; (5) the provision of records so standardized that they may be readily interpreted in the various regional areas to which veterans may go for training; and (6) the constant re-examination of techniques and the refinement of procedures by research.

ORGANIZATION

The development and administration of a definite program for accomplishing the vocational rehabilitation, education and training of veterans is the function of the Veterans Administration Office of the Assistant Administrator for Vocational Rehabilitation and Education. This Office comprises four main services: Adviseement and Guidance, Registration and Research, Training Facilities, and Education and Training.

The Adviseement and Guidance Service is responsible for developing and administering the counseling program of the Veterans Administration. In order to understand the organizational structure within which the Adviseement and Guidance Service operates, a brief explanation of the functions of the other three services is necessary. *The Registration and Research Service* determines eligibility and the extent to which a veteran is entitled to education or training under Public Law 346, including claims to subsistence allowances. It conducts all activities pertaining to registration of veterans who apply for benefits under either of the laws. This service also studies, evaluates, and analyzes reports inquiring into the rehabilitation of disabled persons and in respect to the over-all needs for general education and for training personnel in the various crafts, trades, and professions. *The Training Facilities Service* is responsible for developing an adequate reservoir of training facilities consisting of schools, colleges, universities and on-the-job training establishments. It secures from the appropriate department of each State lists of educational and training institutions which have been determined by the appropriate agency of the State to be qualified and equipped to furnish education or training. It makes contracts and agreements with educational or training institutions under Public Law 16 and when necessary

under Public Law 346. *The Education and Training Service* supervises the veteran while he is in training, and in the case of a disabled veteran, determines when he has been rehabilitated. It prepares detailed outlines of training courses for veterans pursuing vocational rehabilitation under Public Law 16, initiates the procedure for reevaluating the effectiveness of training or adviseement in individual cases under either Act, and in cooperation with the Adviseement and Guidance Service approves changes of courses of education or training under Public Law 346.

The functions of the above-named services are carried out and coordinated by an organizational hierarchy extending from the Central Office in Washington, D. C., to branch offices in thirteen principal cities, to regional offices and hospitals in large cities, to sub-regional offices in smaller cities and to guidance centers in colleges and universities.

The Adviseement and Guidance Service of Central Office has several divisions, each of which is under a chief. The divisions cover the following essential activities: personnel training, guidance centers, educational counseling, personal adjustment counseling, case procedure development and adjustment, hospital and special rehabilitation adviseement, publications and special communications, job analysis and occupational information, special guidance programs and test techniques and construction. The primary functions of the Adviseement and Guidance Service of Central Office are to plan and establish policies, to develop and coordinate major procedures, and to supervise the activities of the Branch Offices to assure the policies, plans and procedures are effectively carried out. Each of the thirteen Branch Offices has several Veterans Administration regional offices and hospitals under its jurisdiction and covers an area comprising three or four states. The functions of the Adviseement and Guidance personnel in Branch Offices are primarily supervisory. Such personnel are charged with making certain the plans, policies and procedures developed by the Adviseement and Guidance Service in Central Office are being put into effective operation by field office personnel. The branch supervisors keep in close contact with the operations in regional offices, sub-regional offices, hospitals, homes and guidance centers where veterans are receiving

counseling services. The functions of the Regional Offices are primarily operational in nature, and they are administratively responsible to the Branch Offices. Normally, regional offices will have their own Advisement and Guidance Sections, and such sections will eventually be established in many of the sub-regional offices. Local contact units or itinerant contact services should not be confused with Advisement and Guidance services. They are concerned with dispensing general information concerning all activities of the Veterans Administration, such as insurance, pension claims, loans, location of guidance centers, rights under Public Laws 16 and 346, etc.

Guidance Centers have been established in over 250 educational institutions, principally universities and colleges, to assist in the tremendous task of furnishing professional counseling services to veterans. Contracts are now being negotiated with other educational institutions and it is estimated that the number of Guidance Centers will eventually increase to over 400. Veterans Administration Guidance Centers are under the jurisdiction of the regional offices.

GUIDANCE CENTERS

To those planning the Advisement and Guidance program it was apparent that no existing national agency was prepared to provide counseling services on the scale that would be required. Guidance programs in past years have been a relatively local accomplishment. Although some educational institutions had counseling services in operation, it was found that too many schools were not prepared to render such service on a basis comparable with their ability to provide instructional service. The present emergency has served to point the way to such institutions for marshalling their dormant resources in the area of guidance work. In considering the alternatives to a program based on contract guidance centers in colleges and universities, it was notable that no other institutions were in a position to supply trained personnel for furnishing the necessary counseling services as readily as they were. Thus, colleges and universities have been selected as the best sources of potential advisers. On their faculties are to be found persons with knowledge in the fundamental fields of psychology, business and industrial personnel administration, labor problems, labor market analysis, tests and measurements,

social work and community organization, education, rehabilitation of the handicapped, vocational guidance, mental hygiene and clinical psychology. On the whole college personnel are judged to be better trained professionally and equipped with more practical experience in counseling students and adults, and to be more easily and quickly trained in the use of specific counseling equipment and techniques. The Guidance Center plan also provides a practical setting for training additional counselors. Although the emergency has required a lowering of standards in many areas, the Veterans Administration is determined to maintain high professional qualifications for the people who are to perform the complex job of counseling veterans.

Under contracts between the Veterans Administration and the educational institutions, various types of technical and professional counseling services are provided by the institutions. The types of services rendered by the institutions vary according to the counseling facilities available, some colleges furnishing psychometric service only, while others furnish complete counseling services, including interviewing, psychological testing, vocational and educational counseling and personal adjustment counseling.

Guidance Centers are organized to make maximum use of institutional personnel who are qualified to counsel veterans. The college employs its own counseling personnel including psychometrists while the Veterans Administration furnishes a vocational adviser and a training officer. Counselors employed by the college are called "vocational appraisers" to distinguish them from the "vocational advisers" employed by the Veterans Administration. The vocational adviser as the chief Veterans Administration representative is responsible for coordinating all activities of the center that relate to carrying out the policies, procedures, and regulations of the Veterans Administration. He is specifically charged with reviewing the advisement record executed by vocational appraisers to determine the suitability of the selected employment objective with reference to meeting the legal requirements for accomplishing vocational rehabilitation. He is also responsible for referring to the medical consultant any problems concerning medical feasibility upon which the Veterans Administration personnel and the institutional personnel cannot reach an agreement. The

training officer outlines a training course for veterans entering training under Public Law 16. He is of particular assistance in giving counselors specific information about what on-the-job training possibilities exist in the local area served by the Guidance Center. In addition, the training officer performs his usual duties of inducting claimants into training and following their progress.

The fact that a veteran is requested to report for counseling at a Veterans Administration Guidance center located at any particular educational institution places no obligation upon him to take educational or training courses at the institution. Each Veterans Administration Guidance Center provides counseling services to any eligible veteran referred to it by the appropriate regional office, and a veteran may take his training wherever he can secure courses appropriate to the attainment of the educational or occupational objective he has selected. For example, it would be possible for a veteran to be counseled at a Guidance Center in New York and to take his training in an approved educational institution or industrial establishment in California if that seemed to be the best way to secure the education or training which he needs and desires. In most cases the veteran will select a training institution or establishment near his home, but the location of the Veterans Administration Guidance Center at which he receives counseling services will in no way limit or influence his selection of an educational course or of a place of training.

PHILOSOPHY OF COUNSELING

The purposes expressed and implied in the Federal laws establishing the program for the vocational rehabilitation, education and training of veterans require that the primary object of the counseling services furnished a veteran must be to assist him in selecting an employment objective or educational goal and the training courses best suited to effect his readjustment to civilian life, having special regard to the importance of occupational adjustment as a factor in this process. Accordingly, a *Manual of Advise ment and Guidance* was prepared with a view to providing a procedure which would place emphasis upon the application of the basic principles of vocational counseling, but at the same time, insure that they would be supplemented by and coordinated with other phases of counseling according to the

needs in the individual case. The procedures outlined in the Manual require that each veteran will be counseled as a person regarded as a complete entity with reference to his needs. These needs may call for the application of any of the specialized counseling techniques such as those of personal adjustment counseling at any stage during the counseling process. The procedures imply a thoroughness in counseling which enlists the aid of social case-work agencies in solving difficult family and financial problems and psychiatric care in the treatment of major personal-social-emotional problems. Thus the counseling of veterans varies in complexity according to the individual case and cannot be done adequately by strict adherence to time limits for the handling of each case or by ignoring in pertinent instances the assistance of the social worker or the psychiatrist or by failure to make follow-up studies in complex cases.

The counseling procedures that have been formulated are based on the principle that the veteran should be assisted in gaining insight into his vocational, educational and related problems in order to prepare himself to make his own decisions. The counselor assists the veteran in making an objective appraisal of his potentialities and limitations, and discusses occupational and educational goals, education and training facilities, personality traits, family conditions and other relevant matters with the veteran so that the veteran is able to appreciate and understand the significance of such factors in selecting a particular course of training or education. Every effort is made to stimulate the veteran to develop an attitude of self-help in order that he may take the responsibility for deciding his own course of action.

COUNSELING PROCEDURES

In developing the counseling procedures it was necessary, as previously indicated, to give especial consideration to the provisions of the law which emphasize the employability and vocational adjustment aspects of the Veterans Administration program. These aspects make it necessary to provide a basis for achieving reasonable uniformity in the counseling procedures and for developing a series of standardized forms for recording the results. The Manual and the forms were devised to accomplish such uniformity and standardization with

special reference to the major steps essential to the accomplishment of vocational advisement.

The first of these steps is preliminary to those comprising the actual counseling process. It is to assemble and organize occupational information covering the nature of the work, the training requirements, the working conditions, the employment requirements and outlets with respect to the occupations comprising the fields affording employment for the disabled and the non-disabled. This step also includes systematizing information as to what educational and training facilities may be utilized to prepare persons for meeting the employment or educational requirements essential to attain their occupational or educational objectives.

The next step is to ascertain through recognized counseling techniques the veteran's interests, aptitudes, attainments, and personality traits, which have the greatest significance in determining the occupational fields and the educational pursuits in which he may have the greatest possibility of success, considering also the limitations imposed by physical or mental disability. The counseling techniques include interviewing, the review of records of school training and of military or naval service, the survey of work history, and the use of objective tests.

Having the information regarding the occupational requirements and training facilities, and the information respecting the veteran's potentialities and attainments, the next step is to make a direct application of one to the other. This includes comparing the veteran's occupational capacities with the occupational demands of employment objectives, the veteran's educational potentialities with the educational achievement required for the attainment of educational objectives, and the determination of the adequacy and suitability of suggested employment objectives in the light of the veteran's aptitudes, interests and abilities. All these matters are considered during a conference with the adviser at the end of which the veteran is usually able to make a tentative selection of an occupational or educational goal and of the education or training courses necessary to reach it.

These major steps involve many actions by the advisement and guidance personnel such as those relating to assembling and digesting information, interviewing, administering and interpreting tests

of aptitude, interest and ability, referring counselees for special services, etc. In order to integrate the counseling process it was necessary to establish some definite procedure for coordinating these activities with one another and with other related activities such as training and medical. There are set forth in the Manual, therefore, certain procedures which specify standardized forms to be used in systematically recording the data regarding the various factors to be considered during the counseling process, the results of the evaluation of such data and the conclusions based thereon.

Some of the advisement forms have been designed specifically in relationship to the legal aspects of the basic laws pertaining to education or training of the veteran. These forms have also been designed so that analysis, evaluation, and interpretation of data can, when necessary, be separated from the function of gathering data.

"The Individual Survey", the form that is used in collecting and recording personal data, is factual in character in that it does not ask for any evaluation or opinion by the counselor. The form entitled "Selection of Employment Objective" is used for evaluating data and applying occupational information techniques. By systematic analysis and elimination of the less important fields, a determination of the occupational objectives which are the most suitable to the veteran's abilities and interests is made, keeping in mind the disability of the veteran if any, and other limiting conditions or special adjustments necessary before the veteran can undertake a course of training or education. Adequate provision is also made in the forms for the selection of appropriate tests and for recording their subsequent interpretation and significance in the total counseling process.

Each of the advisement forms has been devised to serve a specific purpose which makes it possible to divide the counseling work among personnel so that specialized skills of advisers or appraisers may be utilized to best advantage. When properly executed these forms comprise the complete "Vocational Advisement Record" in the individual case.

These procedures would, if applied routinely, tend to control to an undesirable extent the order in which the counseling functions are performed and to limit the number of factors covered by the advisement record. No such control is desired nor is there any

intention to limit the number of interviews or the time required to complete the counseling in any case. The adviser is free to consider any pertinent factors about which he obtains information either during the interview or from any reliable source. He may attach as many additional sheets to any record form as he may desire. It is important that the records be as uniform as possible and that the data be recorded on the forms under captions having the definite meanings assigned to them in the Manual, because the records may be transferred many times and used by many different employees before the veteran's training is completed. With the exception of stating specific principles to be applied in vocational advisement the Manual does not prescribe any special techniques to be used in the different kinds of counseling. The purpose of the advisement forms is to assist in the systematic recording of results of the interview and in the logical evaluation of the informational items. At no time should the interview be conducted so as to become a mere record-making process with accompanying deterrents to the complex interrelationships inherent in the counseling situation.

With respect to counseling procedures in Guidance Centers, it should be noted that different emphases will probably be placed on certain counseling techniques, the use and selection of tests, the matter of selecting employment objectives, etc., depending on the particular background of experience and training of the counselor. The counseling procedures prescribed by the Manual permit the individual counselor or Guidance Center considerable flexibility in adapting different counseling techniques in solving vocational problems.

The order in which the counseling procedures are carried out may be better understood by following the actual steps. When a veteran applies for vocational rehabilitation under Public Law 16 or for educational or vocational guidance under Public Law 346 an appointment letter is mailed to him and a "Rehabilitation and Education File" is prepared for his case. In this file are placed pertinent papers from his service record, abstracts of medical and social data that may be necessary for counseling and if the veteran is disabled there is included a copy of his Veterans Administration Disability Rating Sheet. Transcripts of school records and statements

from former employers are secured if necessary for counseling purposes.

Before the veteran reports for counseling the adviser assigned to the case reviews all the material that is in the counselee's Rehabilitation and Education File. When the veteran reports he is introduced to his adviser who explains to him his rights and benefits and what to expect from the advisement procedure. During the initial interview with the veteran the adviser secures factual data which he records on the form entitled "The Individual Survey." The data include among other items the veteran's family status, employment status (preference for employment or training), work history and vocational outlook. This personal history information is very helpful in the selection of appropriate test batteries. After The Individual Survey is completed, the adviser confers with the psychometrist and arranges for testing. The psychometrist administers and scores the tests, records the test results and prepares a "Test Record and Profile Chart." These results together with any special comments which may be helpful in interpreting the test data are transferred to the adviser and if necessary the psychometrist again confers with the adviser.

The adviser now has the information necessary to provide a basis upon which to proceed in taking the steps which relate more closely to assisting the veteran in selecting an employment objective and the course or courses of training to prepare therefor. The adviser studies the information assembled in the Vocational Advisement Record and evaluates that relating to each of the factors to determine its significance in the selection of the educational or occupational objective. He discusses the various factors with the veteran, making any explanations which are necessary to give the counselee insight into their significance and in so doing gives special attention to supplying any occupational information which will help the veteran to make his own determinations concerning the choice of his occupational or educational objectives and training courses.

When a tentative selection has been made, the physical demands and the environmental factors of the chosen objective are checked with special care to ascertain whether any activity may overtax the veteran's capacity and whether there may be any condition under which he should not work. The

personal characteristics which are necessary for success in the chosen employment objective are also considered. These checks are made by the use of special devices provided in the forms. A conference is then conducted to consider the adequacy and suitability of the chosen employment objective. Included in the conference are the veteran, the vocational adviser, a training officer and when necessary a medical consultant. If the selected employment objective is found not suitable the adviser proceeds to assist the veteran until a suitable one is chosen. When the employment objective is agreed upon the adviser prepares a "Summary of Vocational Advisement Record" and includes therein any special recommendations to the training officer who continues to assist the veteran throughout his period of training.

Although the different steps in the counseling procedure have been described as occurring in a specific order, it should be remembered that the actual order of occurrence of these steps will depend on the individual nature of the problem of the veteran. In some instances, for example, it may be necessary to conduct several interviews with the veteran before proceeding to the actual selection of an employment objective. In other cases it may be necessary to refer the veteran to a psychiatric clinic before completing the personal history statement. The counseling procedure as prescribed by the Manual is not intended to set up rigid steps which must be followed in successive order. As explained previously, the Manual provides a basic framework of counseling procedures.

THE USE OF OBJECTIVE TESTS

A comprehensive testing program is recognized as an indispensable part of the counseling procedure of the Veterans Administration. A wide variety of psychological tests and measuring instruments have been approved for such areas as mental ability, personality, interests, achievement, mechanical aptitude, special aptitudes or abilities, and other areas of significance in counseling. These tests were chosen after careful consideration of such factors as reliability, validity, norms, ease of administration and scoring, etc. In some instances tests have been selected even though some of the criteria for selection had not been met, because it was considered necessary to provide enough tests in all areas so that

counselors with highly diverse training and experience could make a selection of tests appropriate to their knowledge. The Veterans Administration does not prescribe the specific test or tests to be used but leaves this determination to the counselor and the psychometrist.

Although tests are thus used extensively in the counseling program to supplement the interview by obtaining objective data concerning the veteran's interests, aptitudes, achievement, personality, intelligence, and other factors significant in the selection of a vocational or educational goal, the tests are not administered indiscriminately and without any basic consideration being given to the selection of the proper test batteries to be used in the individual case, having due regard for their reliability, and subsequent interpretations. It is recognized that many tests have serious shortcomings, but this should not lead to underestimating their value as tentative evidence at least to support or to oppose data gathered from other sources.

OCCUPATIONAL INFORMATION MATERIAL

Since the effective utilization of reliable occupational literature by counselors is a fundamental part of the total counseling procedure, the Manual has prescribed that an Occupational Information Reference File containing essential information about occupations be set up in each office or center where vocational counseling is done. The Occupational Reference File contains current information about the various elements of occupational and employment data which are to be considered in selecting an employment objective. These elements include for numbers of occupations the nature of the work, the conditions of the work and surroundings, the physical abilities required, the abilities and aptitudes needed, the education and preparation required, and some estimate of the future vocational trends. The Occupational Information Reference File contains this essential information not only for the more common fields of employment but also for the less common types.

It would be impossible to do more than mention the types of occupational material that are considered integral parts of the counselors' resources. A bibliography of selected vocational and occupational materials has been furnished to all field installations. A few of the important source materials

which counselors in the Veterans Administration are using follow:

Dictionary of Occupational Titles

Special Aids for Placing Army Personnel in Civilian Occupations

Special Aids for Placing Navy Personnel in Civilian Occupations

The Operations Manual for Placement of the Physically Handicapped

National Job Descriptions by Industry

National Job Descriptions by Occupation

Description of Professions

Labor Information Bulletins

Monthly Labor Reviews

Minnesota Occupational Rating Scale

In addition to the use of vocational material by counselors, the veteran is frequently given selected occupational readings to assist him in discovering for himself some of the essential factors about occupations that must be considered before a discussion of final employment objectives can be initiated. In cases where the veteran has little information upon which to base a choice, the reading of selected occupational articles may be of great assistance to him in gaining an understanding of the requirements affecting employment in various occupational fields. In some instances, such reading may assist the veteran in the development of vocational interests, and often may indicate the possible broad occupational goals that are open to him. The reading of occupational material by the veteran may also help him to gain insight into the problem of deciding the appropriateness of his occupational goal in relationship to his abilities, aptitudes, and interests.

PERSONAL ADJUSTMENT COUNSELING

From the inception of the counseling program the Veterans Administration has recognized that problems of personal maladjustment frequently interfere with the effectiveness of vocational advisement or may prevent the successful carrying out of plans toward a vocational goal. The counseling program is now being expanded to include a personal adjustment counseling service that will provide specialized assistance in meeting personal and emotional problems which are of such a nature that vocational readjustment cannot be successfully effected without such assistance but which are not sufficiently serious

to require the services of a psychiatrist. In all cases of serious personal, mental, social or emotional disturbances, and particularly in cases with an organic involvement, the procedure requires that the veteran be referred to a Veterans Administration Psychiatric Clinic or when these are not locally available, to other authorized clinical services.

The job specifications for a personal counselor who is responsible for carrying on personal adjustment counseling require that he be a professionally qualified person who has had specialized training in the field of clinical psychology, or mental hygiene, or abnormal psychology. He is also expected to have had extensive experience with clinical procedures, and to have an understanding of the dynamic mechanisms that function in producing the various symptoms found in the maladjusted personality.

A major function of the personal counselor is the counseling of veterans who have been referred to him for personal adjustment counseling. The personal counselor consults with vocational counselors to assist them in identifying possible indications of maladjustment. He likewise consults with training officers who in their follow-up of veterans during the training period discover that personal problems are interfering with the process of vocational rehabilitation. Because of the personal counselor's familiarity with symptoms of severe personality disturbances, he is usually in a position to make an early referral of the more serious cases to the psychiatric service for more intensive treatment. When the problems of the veteran are of such a nature as to require the assistance of social work agencies or other accepted agencies in the community, a referral is made to the proper agency.

Personal problems often become manifest to the vocational adviser during the initial counseling period relative to the selection of the employment objective. Sometimes such problems do not become apparent until after the veteran has entered upon his course of vocational training. In any case, the personal counselor may observe such symptoms as family difficulties, apathetic reactions, emotional feelings of undue importance, and similar factors in the personal-social area in order to discover the dynamics of the personal maladjustment. The counselor may assist the veteran in solving his problems by permitting him to have an emotional release so that he will be able to consider the problem in a

new light. In no case does the counselor attempt to convince the veteran that he is exaggerating his feelings or that they are without factual foundation. It is the aim of the personal counselor to accept the feelings of the counselee and then to help him understand them and face the conditions which cause them. The primary goal in personal adjustment counseling is to reach the stage at which the counselee can look objectively at himself and his problems and take the responsibility for his own decisions.

HOSPITAL ADVISEMENT

The Veterans Administration has extended its vocational rehabilitation service to its hospitals and homes, and is developing plans for providing counseling services in permanent Army and Navy hospitals. Counseling services for blinded servicemen of World War II who were patients in Army hospitals were established at Valley Forge General Hospital, Phoenixville, Pennsylvania, in May 1943, and were extended in August 1943 to Old Farms Convalescent Hospital, Avon, Connecticut, which was the Army's center for the protracted convalescence and orientation training of blinded servicemen. Similar services were established for Navy personnel at the Philadelphia Naval Hospital, Philadelphia, Pennsylvania, in July 1944.

The advisement personnel in a large hospital will ordinarily consist of one or more vocational advisers, a psychometrist, and a training officer. In the smaller hospitals and homes the counseling is done by an itinerant team sent from the Advisement and Guidance section of a regional office. Advisement in the hospital situation cannot begin until the patient is referred for counseling by the ward physician. The extensiveness of any counseling service in hospitals will naturally depend upon the receptiveness of the patient and his physical condition. If the medical condition of the severely disabled patient permits consideration of employment objectives, special attention in applying the counseling procedure is given to the patient's attitude toward his handicap, to estimates of his potential work capacity, to the limiting factors imposed by his disability, to pertinent home and community factors, and to specific job opportunities that exist or may be developed.

In cases where persons discharged from hospitals

must continue their convalescence at home or wait for a considerable period of time before they can assume the duties of job or school training, special personal and social adjustment programs may be arranged on an out-patient basis to suit individual needs and to combine therapy with vocational rehabilitation. If the patient who is confined at home is interested in a job objective requiring courses of study, such courses are provided by correspondence supplemented by tutorial or reader services and by such mechanical and electronic equipment as may assist in overcoming the veteran's handicap.

In general, it may be stated that every possible vocational rehabilitation service is offered the patient as soon as he is able to respond to advisement. Furthermore every effort is made to coordinate all steps so that the rehabilitation process may be continuous from hospital to home and into training or employment.

There is also being developed a group guidance program to be conducted in connection with the advisement and guidance of veterans in Veterans Administration hospitals. Such group guidance methods as forums, panels, conferences, and movies are designed to stimulate small groups of veterans to explore vocational possibilities, to give specific and up-to-date information about occupations, and to prepare the veterans for individual advisement. Group techniques are of course only an auxiliary to the individual counseling situation, but particularly in the hospital setting, they have been found to be very effective. It is also expected that as the program develops it will be possible to extend the methods of group guidance to communities and large cities.

STANDARDS FOR PERSONNEL SELECTION

Every effort has been made to insure that only well qualified professional counselors will be appointed to vocational advisement positions. The Civil Service Commission has established minimum requirements for Advisement and Guidance positions to insure high standards in selecting personnel. Later on, the Advisement and Guidance personnel now in the service on a war-time appointment basis and those applying for new positions will be required to pass a Civil Service written examination in addition to meeting the minimum requirements.

The minimum requirements for Advisement and

Guidance personnel vary according to the grade level of the position. In any event, progressive, responsible experience in one or more of the following fields is required: personnel work, vocational guidance or placement service, college or university teaching directly related to vocational counseling, clinical psychology, and rehabilitation work in private or government agencies. Graduate study in psychology or vocational guidance may be substituted for the required experience depending upon the level of responsibility for the position. The experience and educational requirements necessary to qualify for vocational advisement positions are discussed in greater detail in a recent article "Opportunities in the Veterans Administration for Professional Counselors" appearing in the journal *Occupations* (2).

Although a critical shortage of trained personnel did exist in the past, the release of qualified applicants from the armed services has helped to mitigate this situation somewhat. In addition the Veterans Administration has initiated its own personnel training program to help meet the task of providing trained counselors to handle the ever-increasing number of veterans applying for education or training.

PERSONNEL TRAINING

The need for counselors to receive specialized training in personal adjustment counseling and in special techniques for counseling the seriously handicapped or disabled, the necessity to keep counselors well informed concerning current developments in the guidance field, and the importance of having up-to-date knowledge concerning vocational trends and employment factors, are recognized in developing the plan for personnel training. Three types of training are being developed to meet these objectives: (1) Orientation Training, (2) In-Service-Training, and (3) Professional Training.

The purpose of Orientation Training is to acquaint new advisers with the laws, policies, counseling techniques and philosophy of the Veterans Administration Advisement and Guidance program. This training covers a period of three weeks and is offered to counselors who have been recently assigned to duty. In-Service-Training serves to supplement the Orientation Training program by providing counseling conferences to be conducted periodically

by Central Office and its Branch Offices. At these conferences Advisement and Guidance personnel will discuss new legislation or interpretations thereof, policies and procedures, special counseling problems, successful versus unsuccessful counseling techniques, relative merits of different psychological tests, complex administrative problems or "bottlenecks", and other relevant matters concerning the counseling program. Although such In-Service-Training conferences will be devoted primarily to solving the practical counseling problems that arise in the field, there will be an opportunity for the presentation of technical papers.

The purpose of Professional Training is to provide an opportunity for counselors to take selected graduate courses in the counseling field for which they receive credit toward an advanced degree. Short intensive courses and long-time preparation courses are being developed. The short intensive courses are to be of approximately six weeks duration, and will probably include instruction in such areas as occupational information, testing, personal adjustment, special problems in counseling the handicapped and other pertinent areas. The longer preparation courses are being arranged for personnel who need professional training before they can qualify for vocational advisement positions. Under this plan counselors will be given the opportunity to work for the Veterans Administration on a part-time basis and at the same time take selected work at a university for an advanced degree. This type of training will also be available to selected veteran applicants for vocational advisement positions on an "on-the-job" training basis, if they are eligible for such benefits under either Public Laws 16 or 346.

RESEARCH PROJECTS

In order to analyze the effectiveness of the counseling service and to provide the means for the constant improvement and refinement of counseling techniques and procedures, the various divisions of the Advisement and Guidance Service in Central Office, such as Test Techniques and Construction, Job Analysis and Occupational Information, and Educational Counseling will conduct studies with a view to solving the problems arising in their particular areas. All research projects will be coordinated and designed to measure the effectiveness of the counseling service that is being provided for veterans. It

is impossible to do more than mention briefly the types of research projects that are now or will be studied. Such factors as the selection of tests or test batteries and their relationship to prediction of specific job abilities, the significance of personality factors in choosing vocations, the relationship between physical capacity and the physical demands of the job, job or training adjustment related to time spent in counseling veterans, the analysis of reasons why training or education courses are interrupted or discontinued and similar studies are being undertaken.

SUMMARY AND CONCLUSIONS

The veterans' legislation required that counseling services be distributed throughout the nation without delay. The contract Guidance Center plan has been adopted to make the best practical use of existing facilities and personnel in colleges and universities, and to provide a working basis for expanding these facilities by training more personnel and by negotiating contracts with additional schools as the demand for services increases. To achieve a useful degree of uniformity in records and practices throughout the country a *Manual of Advisement and Guidance* has been promulgated. The advisement and guidance program makes adequate provision for the use of test materials and occupational data. Facilities for handling personal-social-mental-emotional problems and for handling hospitalized cases are included in the over-all program. Personnel background in counseling is augmented by orientation training, in-service training and professional training. Research is in progress to evaluate the program and refine the techniques now being used.

The magnitude of the task facing the Veterans

Administration and cooperating institutions in providing an effective counseling service represents a challenge to the profession of counseling and to applied psychologists everywhere. An attitude of self-criticism and self-improvement must be constantly maintained. Every effort should prevail to refine the organization now in operation and to seek better, more workable and more uniform standards of guidance.

The results of this undertaking will be judged not alone by the professional body which seeks expression and proof of its concepts and practices but by a potentially influential group of American veterans who will judge on the basis of whether they have or have not received a service to meet their individual needs. Even the most highly qualified professional counselors will find the job ahead a challenge for their technical skills, personal abilities, and most ingenious efforts.

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THE ADVISEMENT OF VETERANS AT COLLEGE AND UNIVERSITY CENTERS: FIRST APPRAISAL

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IT IS reported that the Veterans Administration advisement centers now exceed two hundred in number and that eventually four hundred centers will be in operation. Comments in this article are based upon experience at the Veterans Administration Guidance Center at Harvard University covering a period of nine months and involving more than two thousand claimants.¹

The typical claimant is somewhere between twenty and twenty-five years of age, is single, possesses a high-school diploma, is handicapped in some way, and has had one to two years of previous work experience. The total range, in terms of cited characteristics, is wide,—educational achievement varying from three years to twenty years of schooling, occupational experience running from zero to thirty-six years, intelligence from the fourth to the first quartile of the general population, and age from eighteen to more than fifty.

Claimants select a wide variety of occupational objectives, more than a hundred and fifty different occupations being represented among about five hundred claimants counseled in the closing months of 1945. These objectives range from work of a lesser-skilled nature up to professional pursuits, but are largely concentrated in these occupational categories: professional, semiprofessional, and managerial; skilled trades; clerical and sales. About 50 per cent of the clientele elect on-the-job training, the other half going into institutional training on the post-secondary or collegiate level. A substantial percentage of those electing on-the-job training also take supplementary institutional training.

The process by which claimants are advised and are guided toward occupational objectives involves interviewing; ascertainment of pertinent biographical facts; analysis of capabilities; evaluation of

relevant case factors; weighing of alternative outlets and opportunities; and development with the veteran of an educational or vocational plan in line with pertinent factors.

In counseling with the claimant, the appraiser attempts to evaluate the claimant's characteristics in terms of the educational and occupational requirements of the field or fields being considered. The purpose is to work out with the claimant an occupational objective which is suitable and feasible in terms of individual potentiality, available opportunity, and eventual likelihood of reasonable satisfaction and success. It is felt to be desirable that the veteran should have at least an even chance, or preferably better than an even chance, of success in his training program in the occupation which he will eventually enter. This may be interpreted in terms of whether the positive elements outweigh the negative in the evaluation of case factors. It is considered to be no service to the veteran or his family to permit him to enter a field in which he might be likely to fail or one which is so overcrowded as to offer an undue hazard that the veteran may become one of many "marginal" operators hanging on precariously to his job. In the last analysis, the purpose is to reach an objective which the Federal government can justifiably subsidize and which at the same time satisfies the claimant. In a substantial number of cases the advisement process either confirms the veteran's preference or develops some related field, while at the same time supplying the claimant with useful information pertaining to the field or training for it.

Appraisal of the Advisement Process

Follow-up data on outcomes among a representative sampling of claimants who have already completed the advisement process is not yet available. Such data will be hard to obtain because satisfactory adjustment is a difficult thing to

¹ Covered in a report of the director to the Advisory Board, January, 1946: "Vocational Advisement at the Veterans Administration Guidance Center."

essay and, moreover, it does not necessarily follow that satisfactory adjustment in any one case is due to the factor of effective counseling.

Appraisal at the Harvard Center to date has been based upon limited modes of evaluation, including the analysis of a sampling of completed cases by means of a "case evaluation summary" developed at the Center for this purpose and examination of returns for readjustment.

More intensive evaluation studies are now underway aiming toward a broader assessment of outcomes than has yet been possible. Measured judgment of the enterprise as a whole and of its constituent phases will have to await the completion of studies of this kind. Until the results of such research are available, true evaluation of the undertaking in its present form and with the present system of procedures cannot be expressed.

Preliminary appraisal has resulted in such tentative conclusions as the following:

1. In many cases, more suitable and feasible objectives are selected than would be chosen without such service.
2. Cases sent back for "reevaluation", where the veteran has expressed dissatisfaction with his program, seldom reveal deficiencies in counseling, but have to do with such factors as the psychology of the veteran, placement difficulties, changes in the veteran's physical condition, or altered environmental circumstances.
3. Availability and knowledge of occupational opportunities and of functional requirements within jobs is of paramount importance in advisement.
4. The clinical appraisal of individual characteristics, in relation to occupational performance, requires a great deal of further study and development.
5. The context of administrative conditions surrounding the counseling process definitely conditions and affects it.

It is doubtful whether the full significance of the guidance work for veterans in colleges and universities has been fully appreciated. The idea of such an enterprise was a bold one on the part of the Veterans Administration officials who put it into execution, and it has been an extremely adventurous, if not hazardous, undertaking on the part of the

colleges and universities. The effective maintenance of a coordinated public service of this kind may have many lessons in it for the meeting of social needs in a democracy when several different organizational jurisdictions may be involved.

Some Problem Areas in Veteran Advisement and Suggested Lines of Possible Action

The experience obtained at the Harvard Center and the attempt at appraising results have disclosed several areas of operation which it might be worth while to analyze from the standpoint of possible adaptations in the administration of the service.

It is clearly recognized that these suggestions involve problems of policy which may make them entirely inconceivable from an administrative standpoint. They are not presented in any spirit of criticism but with full appreciation of the very great administrative difficulties that exist in this program.

1. Appraisal of the Individual

In the past decade, especially during the war years, a great deal of new information concerning the appraisal of individual traits and characteristics in relation to occupational performance has been produced. Involved in this productive research have been both military and civilian agencies, such as the Army Air Forces and the U.S.E.S. It is desirable that such material be pooled and analyzed and that means of making effective and practical application be developed. This is of especial import in the advisement of veterans. At the present time, the results of this research are not available in such form as might be utilized in veterans' guidance centers, but it is possible that, if early action were taken, at least some improved modes of testing and appraisal could be developed for application in the coming months before the peak of veteran advisement is reached and passed. In view of the fact that much of this research data is scattered among the several agencies, including governmental agencies, it seems advisable that any further research along this line be conducted by a national council which would coordinate the work of private and governmental organizations interested in this problem. The work might be financed by a governmental grant of funds to which the Veterans Administration might largely contribute.

2. Increased Provision for Personal Counseling

After a period of nine months, it is clear that

some of the difficulties of occupational adjustment experienced by certain veterans are due to psychological problems and attitudes in the minds of the veterans. A recent study of "revaluated" cases² reveals that about 45 per cent were returned for readjustment because of factors in the psychology of the veteran himself. This means that more time might advantageously be taken with the veteran during the advisement process in types of interview which might be designated "personal counseling". At the present time, pressure is considerable, both on the part of the veteran as well as of others, to complete cases of advisement at the earliest possible moment. It seems desirable to consider the possibility, for certain types of problems, of extending the interviewing and counseling time beyond the present mode. In this connection, certain appraisers especially well equipped for personal counseling could be detailed for this duty.³ In this way, the regular stream of claimants would not be held up and the regular flow of procedure could be maintained. In view of the increased time and professional difficulties involved, the cost of handling such cases would be heightened, and this factor would have to be recognized and met.

3. Occupational Information

In the advisement process with claimants, much depends upon the scope and validity of the occupational information available to appraisers. Information conveyed to the Guidance Center from the training officers of the Veterans Administration has been invaluable, but it is believed that special attention to the provision of more information about additional levels and types of jobs would be repaid many times over. Recent reports indicate that organizational facilities are being set up by the Veterans Administration which will include occupational research among other functions. Occupational research, to be of greatest value, should involve study of functional requirements within jobs, as well as for different jobs, so that occupational opportunities may be related as closely as possible to individual characteristics.

4. Placement Service

From the beginning of the program, it has been

clear that a certain number of advisement problems have been more closely related to advisory interviewing associated with placement than to a full-fledged process of clinical counseling. The possibility of satisfactory occupational adjustment for a certain percentage of claimants depends to a considerable extent upon the existence of available employment opportunities in lesser-skilled jobs. While the advisement process is not without value in these cases, ultimate adjustment is primarily contingent upon finding some available job in some field which requires no particular training. In effect, the great need in these cases is for a special type of advisement *looking directly toward placement in a suitable available job* and possibly some follow-up after the veteran is on the job. It is probable that the handicapped veteran could best be served by a combination of special advisement and placement, and it is suggested that the possibility be considered of establishing special units for dealing with such cases manned by special advisers, placement officers, and occupational researchers.

5. Administrative Regulations and Procedures

A difficult problem has been that of the smooth integration into the flow of guidance center procedure of essential Veterans Administration functions and responsibilities which cannot be performed by the university personnel of the center. The most prominent of these functions is the fixing and underwriting of the claimant's occupational and training objective in each and every case. This is a basic responsibility of the Veterans Administration which cannot be relinquished by them. This responsibility is exercised at the immediate conclusion of the advisement process for each client.

From the standpoint of the university center, the most desirable system would be one in which the university personnel would evaluate the case and make a written recommendation, as complete and specific as possible in each instance, and then submit the documents and recommendation to the Veterans Administration for all subsequent processing, including the designation and coding of final objectives as well as the underwriting of the objective.

6. Need for New Educational Facilities

It is suggested that the possibility be examined of setting up special educational facilities in each area and region, supplying a variety of short-term vocational training experiences not now provided

² About 5 per cent of all completed advisements may be returned for readjustment.

³ A procedure of this kind has already been instituted at the Harvard center.

in technical and trade institutions. These opportunities might be of a type offered in certain hospitals maintained by the armed forces. Such vocational training courses as sheet-metal pattern drafting, upholstery, tailoring, industrial design, and air-conditioning estimating are not now commonly provided in technical and trade schools. It might also be advantageous to set up "composite technical courses" in which veterans could train in two or more distinct but related skills and trades. Probably the most effective and desirable means of establishing new educational facilities of this type would be Federal subsidization through the educational authorities of the respective states, as was done in war training programs. Vocational training facilities of all types and varieties will be of paramount importance in those areas where an unfavorable employment situation drives increasing numbers of veterans to seek educational benefits.

Summary

Advisement of veterans in a college guidance center is a difficult undertaking fraught with many professional perils. Yet it is a social service which may be considered useful so far as current appraisal can be undertaken at this time. Among the lines of possible further development which may be considered in this work are: (1) Improved appraisal practices through national research into effective instruments employed in civilian and military personnel work; (2) increased provision for personal counseling in college and university centers; (3) provision of greater amounts of pertinent occupational information; (4) establishment of administrative procedures permitting direct referrals to a special placement agency associated with the guidance center; (5) readapted administrative procedures related to the mode of designating objectives; and (6) provision of special vocational training facilities beyond those now available.

SELECTION AND CLASSIFICATION OF AIRCREW BY THE JAPANESE¹

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IN THE fall of 1945 there developed an interest, both within the Office of the Air Surgeon, Headquarters, Army Air Forces and the Bureau of Personnel of the Navy Department, in having investigated at first hand the methods used by the Japanese, during the war, for the selection and classification of their flyers. Interrogation of prisoners of war and intelligence reports had indicated that much of interest to American aviation psychologists might be learned from a survey of Japanese aircrew selection procedures. After preliminary discussion between Army Air Force and Navy psychologists it was decided to take advantage of the presence in the Philippines of officers of the Aviation Psychology Program, then nearing the completion of their mission of establishing within the Philippine Air Force the system of aircrew selection used in the United States, and arrangements were made for them to proceed to Japan and undertake the desired study. Accordingly, Colonel Frank A. Geldard and Major Chester W. Harris spent parts of November and December, 1945, in Japan and, through interrogation of Japanese Army Air Force and Japanese Naval Air Force personnel, examination of documents, participation in field trips to military flying installations, and interviews with non-military personnel, were able to reconstruct the essentials of the selection and classification procedures used by the Japanese.

The best sources of information were the interrogations of officials actively engaged, throughout the war and earlier, in the administration of psychological tests and the holding of interviews, the results

of which, taken together with physical examination findings, were the chief determinants in aircrew selection. Documentary evidence was difficult to come by, a Japanese General Order just prior to final surrender having called for the destruction of all military papers. However, some copies of tests and certain processing forms were located; it was also possible to recover copies of apparatus tests used in both services.

While in Japan the investigating officers were attached to the Air Technical Intelligence Group of Far East Air Force Headquarters. The facilities of this organization for arranging and conducting interrogations and providing translating and interpreting services were excellent and these were fully utilized. Cooperation on the parts of the interviewees was very good, it being doubtless enhanced by the imminence of the much bruited war criminal trials, even then beginning in Tokyo.

THE JAPANESE ARMY AIR FORCE

As in America, psychological processing was organized under the Medical Department and was conducted in conjunction with the physical examination. Applicants for the Japanese Army Air Force, of which there were always more available than could possibly be accommodated in training—it was a popular service there as elsewhere—were first given physical examinations at some fifty district hospitals scattered all over Japan. Passing this examination, which involved no psychological testing, qualified the candidate for the Japanese Army. The Air Force applicant then typically awaited call and, from a few days to six months later, went to Chofu, about 25 miles west of Tokyo.

¹ This work was carried out as a project of the Aviation Psychology Program of the AAF.

Here was situated *Koku Tekisei Kensabu*, the "Aviation Fitness Testing Unit." This was the central testing establishment of the Japanese Army Air Force with a capacity, limited by housing facilities, of 300 candidates at any one time. Not all processing was done at Chofu. Transportation difficulties, as well as limited housing, dictated that outlying testing centers be made available on occasion. At different times examining teams went on detached service from Chofu to Hirosaki (Northern Honshu), Nagano (Western Honshu), Kyoto (South-central Honshu), and Kumamoto (on Kyushu). These detachments travelled to the four centers two or three times each year and remained for periods of a week to a month, sufficiently long to process the accumulated backlog. Prior to February, 1944, when the Chofu station was established, the large central processing unit was located at Tachikawa, 10 miles to the west. This was the "Wright Field" of Japan. Expanding aeronautical engineering research activities eventually forced *Koku Tekisei Kensabu*, with its demand upon processing space, to move to nearby Chofu.

The surgeon in charge of the Chofu unit was Colonel Toyotoshi Onogi. On his staff and in charge of the psychological section was Mr. Akira Yoshino. The latter, a civilian, was a "Technician Official" and possessed the equivalent rank of Major. All other psychologists and assistants in the Chofu unit were also civilians. It appears to have been a rare event for a civilian to have been given a position of such responsibility in an army unit. In all there were 50 people concerned with psychological processing in the Chofu organization. Eleven of these were "high officials" or "experts", 9 were "minor officials", and 30 were "employees" or assistants. At the largest of the field detachments, that at Kyoto, which could process as many as 300 candidates per day, there were 4 "experts" and 10 assistants. At each of the other temporary stations there were 3 "experts" and 7 or 8 assistants, a sufficiently large team to process 100 or more candidates per day. All personnel at Chofu did all jobs, i.e., both major and minor officials gave tests, scored them, etc. There was no specialization of function except that only "experts" were permitted to conduct the "verbal tests," in effect, the final individual evaluation.

Two days were devoted to physical and psycho-

logical examining. Typically, a candidate would arrive one day, get his examinations during the next two and, if he lived nearby, would leave on the afternoon of the third day. If his home was at a distance he would be provided lodging for the night of the third day and would leave on the fourth morning. Any necessary rechecks were done promptly and the candidate would know immediately upon completion of the tests whether he had passed.

On the first day of testing the candidates assembled at 8 o'clock, were given 30 minutes of preliminary orientation, and then were administered a series of group tests. As many as 300 could be examined at one time. The group tests constituted the most important part of the battery, as will be seen, and consisted of: (1) an "Intelligence Test", (2) a "Calculations Test", and (3) a "Rhythm Perception Test". A kind of biographical data blank, the obtained information subsequently to serve as a basis for questioning in the final interview, was also filled out at this session. The written tests required about two hours to complete.

After a noon intermission, processing was resumed at 1 p.m. with the candidates now beginning their physical examinations. The afternoon was devoted to general physical inspection and examination (height, weight, chest measurements, blood pressure, X-ray, etc.), there being no further psychological testing that day.

The morning of the second examination day, at 8 o'clock, the group partially processed the day before was broken up into four sub-groups. Group 1 went to an "internal organ" examination; Group 2 received visual tests; Group 3 was given an ear, nose, and throat examination; Group 4 had individual psychomotor tests and a "verbal" examination. The four sub-groups were rotated through all four sequences and, ordinarily, all would be finished by 3 p.m. The individual psychomotor tests and interview required 40 to 60 minutes per candidate.

DESCRIPTION OF TESTS

Group Tests

1. Intelligence Test.

This had its origins in the U. S. Army Alpha. Both Army Alpha and Beta had been used in Japan, directly after World War I. Alpha had been stand-

ardized on a large Japanese Army population in 1922, by Professor Yenjiro Awaji of Tokyo Imperial University. Successive modifications occurred until 1939 when the test presently under discussion was utilized in the JAAF battery. Beta was dropped early in favor of more refined psychomotor tests.

The test existed in five forms, differing in their degree of difficulty. All contained the following six parts, however:

a. *Directions.* Simple instructions were to be followed, e.g., "You will see circles from 1 to 5 arranged in a circular pattern like a plum blossom. When I say 'Begin' draw a straight line connecting Circle 1 and Circle 3, and a straight line connecting Circle 5 and Circle 2." Ten different sets of instructions comprised this section.

b. *Digit Comparison.* Two columns of four-digit numbers were given; the pairs were to be judged as "same" or "different", thus:

7935	7935	(same)
4013	4913	(different)

This was a test of clerical speed and accuracy involving 50 pairs of numbers, four to nine digits in length.

c. *Hidden Figures.* Simple geometric forms, "hidden" in a much more complex one, were to be found and identified by appropriate numbering. This was essentially a paper form-board. There were 15 forms to be located.

d. *Substitution.* Digits were to be substituted for geometrical forms in a long sequence of the latter, eight series of 40 symbols each being presented.

e. *Reasoning.* A sequence of logically related digits was to be completed, e.g., 1, 2, 4, 8, —, 32. Twenty problems of this type were included in this "inductive reasoning" test.

f. *Arithmetic Reasoning.* A set of 10 problems, 4 multiple choice answers being supplied in each, were to be solved. Certain of the items made rather less demand on reasoning processes than upon possession of common bits of information.

Scoring. Total scores on the intelligence test could range between -16 and +21 after appropriate conversion of all six parts. No attempt will be made here to reproduce the details. A manual, containing conversion tables for all parts of this test, as well as for other tests in the battery, is on file in

the Office of the Air Surgeon, Hq, AAF, Washington. The manual also served as a kind of "Standing Operating Procedure" for the JAAF and contains detailed instructions for test administration.

2. *Calculations Test* ("Test of Working Ability").

This was the Kraepelin mental addition test as modified by Professor Uchida, formerly of Wasada University, Tokyo. It was introduced to the battery in 1940. Successive pairs of digits arranged in long rows were to be added and the integer in the unit column of each sum written down. The examinee worked continuously for one minute when he was stopped and directed to the next row of digits. Accuracy of the result was less important than total "mental work" performed which, in turn, was regarded as less significant than the total "pattern of response" throughout the entire test. Fifteen rows were to be completed, a five minute rest period was interposed, then 10 more rows were worked in the same fashion.

Scoring. The "pattern" of performance, as judged by the work profile, was compared with those for "normal", "subnormal", "middle", "unstable", and "pathological" types. The average total number of digit pairs completed also contributed to a complex score, partially determined also by the amount of variability from row to row and the general work decrement. An "introspective report", consisting of checked answers to 24 questions, inquired into feelings and attitudes prior to, during, and after the examination. This test was regarded by its users to be a "diagnostic test of character" and as such, was thus largely clinical in spirit and interpretation.

3. *Auditory Perception of Rhythm Test.*

This test was given in two parts. In the first, four groupings of sounds: A = ; B = ; C = ; D = were presented in mixed order. The examinee simply identified each and wrote down the appropriate symbol: A, B, C, or D. The sounds were reproduced from a gramophone record through a loud speaker; individual ear phones were not used. In the second part of the test 20 groups of three word sounds each were presented, the task being to indicate whether one sound, different from the remaining two, came first, second, or third in the sequence.

The test was designated by its users the "communications" or "code" test and was originally devised with radio communications in mind. It was used in the selection of all aircrew and certain ground personnel, however.

Scoring. The total number of sounds correctly discriminated constituted the score, which was then converted into one of 7 grades, ranging from -3 to +3.

Psychomotor Tests

1. Motor Coordination "A".

This test was essentially a "mirror drawing-eye-hand-foot coordination test." A movable plate, carrying a record form with an irregular line path, could be moved to and fro by appropriate motions of a "rudder"; an ink-writing stylus, controlled by a "stick", could trace left-right deviations of the path. Looking in the mirror, and with hands and feet screened, the line was to be traced as accurately and rapidly as possible. "This is a test of adaptability, embarrassment, and judgment." A tracing of the combined responses of hand and foot could now be compared with the true path. Accuracy was not objectively scored but five "standard patterns" served as sources of comparison. Thus the scoring procedure used in handwriting and similar scales was used, it admittedly having a large subjective element, but judged to be sufficiently accurate for the purpose at hand. Five grades of excellence of performance on this test were distinguished: A, B, C, D, and E. Each represented several possible combinations of time and "quality" scores.

2. Motor Coordination "B".

This test involved a horizontal drum, viewed through a mirror, the drum rotating toward the subject at a rate of one revolution per minute. A paper on the drum had two irregular but parallel lines on it which were to be followed with ink-writing styli actuated by stick and rudder controls. Paper speed past the recording points was 1 cm./sec. Lateral adjustments of the "stick" permitted tracing one of the lines; the "rudder" traced the other. A practice period involving two revolutions of the drum was allowed, then a single scored trial of one revolution (60 cm. record) was given. For scoring

purposes the entire 60 cm. record was divided into 25 sections of 2.4 cm. each. On each individual section there could be made a score of 0, 1, or 2 points, depending on proximity to the true pathway. Thus a total of 50 points for the hand response and 50 points for the foot response was possible. Norms were as follows: A, 51 and over; B, 41 to 50; C, 31 to 40; D, 21 to 30; E, below 21. Whereas an objective scoring system was thus devised for this test it is worthy of note that "quality of performance" was judged to be equally if not more important in the final assessment. Any obvious clumsiness in manipulation led to a repetition of the test. If the clumsiness remained, the fact was noted on the record sheet under "Remarks." Any "remark" had an important bearing on the final decision.

A clue as to the method of combining test scores is seen in the practice of disqualifying for pilot, but not necessarily other aircrew, training if a candidate made an "E" on either Motor Coordination "A" or Motor Coordination "B", or if he got "D" on both these tests.

3. Recognition Test.

This test involved the tachistoscopic exposure of five digits simultaneously. Exposure time was 0.15 seconds. After each exposure, of which there were five (one practice and four test trials), the examinee wrote down the digits in the order in which they had been presented. As soon as the subject had finished writing, the next exposure was given. In scoring this test, five points were given for each digit correctly reproduced in the correct position. Five points were deducted for each wrong digit; 2.5 points were subtracted for an omission or transposition. Norms were: A, above 85; B, 70 to 82.5; C, 60 to 67.5; D, 50 to 57.5; E, 47.5 or below.

Reexamination on psychomotor tests was not uncommon. As soon as the candidate had finished the tests he went to one of the "experts", of which there were 11 headed by Mr. Yoshino, for "verbal tests". At this time there was a checking up on group test and psychomotor test scores to see whether any impossible or improbable scores had been recorded. If anything looked wrong with psychomotor test scores a man was sent back for retesting. ("Oh, yes, we know all about the practice effect, but the quality of performance is all we

are interested in; we want to spot the clumsy people").

The verbal tests consisted of asking questions and observing attitudes, appearance, eccentricities, and trying to discover "character faults". Some of the questions were quite simple and were designed merely as primers to conversation: "How many square centimeters in a square meter?" "When was the Japanese Constitutional Law published?" "Give the name of the capital of Manchukuo." The candidate's "readiness" or "alertness" in answering were noted. The way in which he handled the interview, whether he showed "common sense", etc., was observed. Some personal history questions were asked: "What is your father's profession?" "How many brothers and sisters do you have?" "Why did you apply for the Japanese Army Air Force?"

The verbal tests were regarded as very important because, in addition to permitting the examiner to arrive at a total overall "prediction", opportunity for discovering abnormalities such as stammering and stuttering, epileptic phenomena, early antisocial tendencies (stealing, absence from school, etc.) was provided.

As was mentioned earlier, the biographical data blank filled out at the group test session served as the point of departure for the interview and guided, to some extent, the direction it took. There was no attempt whatever to standardize the interview; in fact, such standardization was discouraged.

Combining of Test Scores

The conversion tables used with a number of the tests have been presented in connection with the description of scoring methods. The outstanding characteristic of the tables is that practically all of them represent the conversion of some kind of numerical score or a judgment of quality into a five class grouping. Inquiry regarding how these conversion tables were developed revealed that it was customary to construct one after administration of the test to about 1000 cases (five successive samples of 200). An attempt was made to arrange the five classes so that the cases would be distributed: A, 15%; B, 20%; C, 30%; D, 20%; E, 15%. However, reference to the conversion tables shows that there were used as limits for each of the classes numbers that suggest considerable "rounding" of figures,

in the interest of convenience. Adherence to rigorous statistical treatment of data was apparently not the practice; convenience was made well-nigh maximal.

The final psychological evaluation of an applicant for aircrew training was made on the basis of a system of multiple cut-offs. No system of combining scores on particular tests into a composite aptitude score was used; instead, performance of an applicant on each test was considered and his poorest performance determined, for all practical purposes, his final psychological evaluation. The provision for retesting made it possible, of course, for the psychologist to "adjust" this final evaluation by giving an applicant an opportunity to raise one or more low scores. Also the matter of which form of intelligence test was administered in the first place (since the various forms differed in difficulty) had a definite bearing on the standards of passing.

When the final evaluation was completed all candidates fell into four categories: A, B, C, D. Those falling in Class A could be made pilots or other aircrew; Class B men were trainable as aircrew but not as pilots; those falling in Class C could be trained for ground crew only; Class D candidates were disqualified for the Army Air Force. Table I provides a statement of the standards admitting candidates to these four categories.

It is to be noted that the three psychomotor tests actually failed to serve as aircrew selection devices. Only the results on the group tests could determine whether or not an applicant was to be trained for aircrew. The psychomotor tests served only to differentiate between Class A and Class B men, i.e., potential pilot trainees and other aircrew.

It was recognized by the users that not all tests were of equal value in determining the outcome. Whereas composite aptitude scores were not computed, a bow was made to the principle in the informal use of a set of weights. These were regarded as merely "something for the psychologist to think about" when he made his final evaluations. The Intelligence Test, Motor Coordination "A", and Motor Coordination "B" were each thought of as carrying 20% of the burden, the Calculations Test was assigned a 15% weight, the Recognition Test and the Interview each contributed 10%, and the Rhythm Perception Test accounted for the remaining 5%.

It should be stressed that the final assessment was made by an individual psychologist who had available the record of scores on each of the tests. He interviewed the applicant, examined the pattern of scores, and arrived at a judgment as to the proper category in which to place the applicant. The practice of permitting retesting and the subjective weighting of tests, including the "verbal tests," required that the psychologist arrive at a final assessment that represented to a great extent his judgment of the fitness of the candidate. Moreover, the standards set forth in Table I were not adhered to rigorously. On some occasions at least,

psychological examinations that his psychological confreres had.

Classification of Ground Crew

Ten classes of specialists were recognized in ground crew. These were: (1) ground mechanics (wings, fuselage, landing gear, etc.); (2) ground mechanics (engine); (3) instrument engineers; (4) motorcar drivers and repairmen; (5) electricians; (6) communications specialists (radio and telegraphy); (7) cryptographers; (8) ground machine gunners; (9) meteorologists; (10) basic soldiers. Psychological tests were used in connection with the selection and

TABLE I
Final Psychological Evaluation of Aircrew Applicants

TEST	CATEGORY			
	A	B	C	D
Intelligence	Officers: 4 or more Noncoms: 0 or more	3 to 0 -1 to -3	-1 to -3 -4 to -6	-4 or less -7 or less
Kraepelin*	A, A', A" B, B', B" Light A _F or B _F	Heavy A _F or B _F C, C', C" Light C _F	Heavy C _F Light F	Heavy F, D, P
Rhythm Perception	76 or more	75 to 56	55 to 46	45 or less
Motor Coordination "A"	A, B, C, D	E		
Motor Coordination "B"	A, B, C, D	E		
Motor Coordination "A" and "B"		Both D		
One Motor Coordination and Recognition		Both D		

* The symbols used in this table have the following meanings: A, B, C, and D designate amount of "mental work" (digit pairs added); ', ", and F denote increasing work decrements; P indicates great irregularity of performance ("pathological"). "Heavy" means "marked"; "Light" connotes "a tendency toward" or "a little of".

when quotas surged upwards and processing rates lagged behind, there was a relaxation of both physical and psychological standards of qualification. The Chief of the Chofu unit, Colonel Onogi, stated that the psychological tests, especially the psychomotor ones, were "too hard" and it was his practice to lower temporarily psychological standards when the need arose. Similar relaxations were made in the case of the physical examination where inadequate height, nasal irregularities, and somewhat reduced visual acuity could be waived, but depression of the psychological standards came first. He felt the more justified in this action in that more than 50% of the physical disqualifications were for psychological (aptitude and character) reasons. Moreover, he did not have the confidence in the

classification of only the first three categories, the mechanics and engineers. These were selected from among those falling in Class C, i.e., those unacceptable for aircrew training but still standing high enough on the examinations to warrant their use in the JAAF. In addition, eliminees from pilot training could be trained as either mechanics or ground communications experts. Also any candidate could elect to be trained for ground crew but, as in America, 90% of the applicants initially indicated their desire to be trained as pilots. Engineers were therefore likely to be those who failed to qualify for aircrew training, or those who fell by the wayside in the flight training course.

Three additional tests were given to applicants for ground mechanic training:

1. Two-Hand Coordination Test

This was a simple form of the familiar two-hand "lathe-type" test. Two screws disposed at right angles, actuated by lathe handles, drove a platform carrying an irregular line path. A fixed ink-writing stylus traced the movements of the plate, as in Motor Coordination "A." The score was derived from both time and "attitude toward task" judgments, the following being disqualified: (a) those falling in Class C with respect to time (1 min., 21 sec. to 1 min., 40 sec.) and Class E with respect to attitude; (b) those in Class D on time (1 min., 41 sec. to 2 min.) with either Class D or E attitude; (c) those requiring more than 2 min. whose attitude was judged to be Class C or worse.

2. Form Board

The form board used, manufactured by the Yamagoshi Co., was not seen. From its description it appears to have consisted of nine geometrical forms, each made up of two or three pieces. Those candidates requiring over three minutes to complete the board were disqualified. In addition "organizational ability", as evidenced by the degree of "insight" displayed, might be the subject of "remarks".

3. Card Sorting Test

This presented the problem of sorting 25 cards into 3 piles. Each card bore nine geometrical figures: circles, squares, and ellipsoids. The cards were to be sorted into the three categories on the basis of the plurality of a single geometrical figure. Thus a card having 4 circles, 2 squares, and 3 ellipsoids was a "circle" card and went into the "circle" pile. The score took into account both time and errors. At the one extreme a time of more than 1 min., 20 sec. with no errors was disqualifying; at the other, a time of less than 30 sec., accompanied by as many as 8 errors, likewise disqualified.

Selection of other Specialists

Only one other class of candidate for the Japanese Army Air Force was selected with the aid of psychological tests. These were airborne radio and radar operators. They were given the Intelligence Test, the Calculations Test, the Rhythm Perception Test, and the interview. If any doubt existed, the

Recognition Test was also given though in a slightly different form from that used in the selection of pilots and other aircrew. No special psychological testing was involved in the selection of aircrew commanders, fighter pilots as opposed to bomber pilots, pilots of long-range fighter planes, or of those to be trained in jet and rocket-propelled planes. There were no test results to differentiate potential navigators from bomb aimers or gunners. The services of psychologists were not used in the prediction of "officer qualities".

Much interest surrounds the "special attack" or "kamikaze" pilots. The question naturally arises as to whether psychological test results were utilized in their selection. According to our best informant on this matter, Mr. Mochizuki of the Air Headquarters, kamikaze pilots were not selected, in the usual sense, at all. The army policy was to force applications by creating a "spiritual atmosphere", offering unusual rewards, and by indicating by rational argument that military necessity required a large number of applicants. At the beginning applicants were prompted by the highest patriotic motives; later a poor type of "show-off" applied. The actual decision to become a kamikaze pilot was made in a kind of "father confessor" situation, held privately between the applicant and his commanding officer. Upon being "converted" the candidate was given very special privileges: (1) he could go on leave immediately (a very rare reward in the Japanese Army); (2) he was given special foods—anything he wished; (3) he was encouraged to indulge himself sexually; (4) he could, within limits, choose the time of his death, i.e., when his mission was to take place. Completely untrained pilots were never used, contrary to rumor. Some had had as many as 3000 flying hours. Late in the war a few had had as little as 20 hours of training, but this was very exceptional and at a time when the fully trained pilot, ready for combat, might have had less than 100 hours total flying time.

The morale of special attack pilots was bad, on the average. After the "feast", the kamikaze pilot was likely to lose much of his fervor and many made all kinds of excuses to get out of the final death mission. One is known to have burned his plane on the night before his scheduled takeoff. In general, the planes used were very inferior ones, naturally, and the

pilots came to mistrust them. "Good results cannot come out of despair" and the average effectiveness of the special attack pilot in guiding his plane to the target was said to be very low. The poor morale of this group led Mr. Mochizuki, who was making a special study of this matter for *Koku Hombu*, the Air Headquarters, to recommend to the Minister of War that the entire venture be dropped. Humanitarian considerations were not involved in this recommendation—"That had all been settled at the beginning and there was no point in raising the question"—but sheer military ineffectiveness coming out of atrocious morale was the reason for the recommendation. Poor morale was not an uncommon phenomenon in the Japanese Army Air Force and was traceable to more causes than mechanical inefficiency of the planes. Military discipline was bad. Men were worried about their families and about economic troubles. There was constant turmoil created by bickering between senior and junior officers. "The Army has a very bad feudalistic system; many of its regulations are stupid." An example of the latter was the requirement that pilots, regardless of their state of exhaustion, must not sleep in the daytime.

Validity of the Japanese Army Air Force Battery

Studies were conducted by the Chofu unit, throughout the war, in an effort to determine the predictiveness of the battery of tests. Both training records and accident records were used as criterion information. Whereas no relevant records could be produced, they having presumably been burned, Mr. Yoshino, who had performed many of the statistical studies, was able to recall "typical" validity figures (Pearsonian r 's) as follows: Intelligence Test, .50; Calculations Test, .50; Motor Coordination "A", .40 to .50; Motor Coordination "B", .40 to .50; Recognition Test, .30 to .35; Final Assessment, .60 to .65.

The criterion used in obtaining these coefficients was rank order in the class at the end of training. Normally, pilot training in the Japanese Army Air Force was one year in duration, broken up into five "phases" involving a total of 300 flying hours. The first three, of 2, 2, and 1 month respectively were in a "middle class" plane of the 95-3 type. The remainder of the year saw training in a "high class" 98 type plane. One instructor had four

students assigned to him. At the end of each training period he graded each of his four students as A, B, C, or D. Also there was made at each training school a rank order listing of all students in the class at the end of the training period. Towards the end of the war flying training was radically shortened, less than 100 hours being included in the entire course. It is believed that an elimination rate of 25% was established by directive from Air Headquarters: 10% in the first two months, 10% in the second two, and 5% for the remainder of the year.

The validity coefficient for the final assessment was qualified by adding that this value was secured "If Mr. Yoshino does it" (makes the final assessment). If he gives "remarks" on the record card the man is almost certain to fail in training! Other "experts" were not as good. It should be emphasized that no data were seen; the coefficients enumerated above were given from memory. Another informant, also an experienced psychologist, stated that the validity of the battery was perhaps some place between .30 and .70, but "the criterion was too unreliable for any figure to mean anything." There was, as a matter of fact, some reluctance displayed by all informants to evaluate the success of the psychological tests in terms of validity coefficients. "The strictly numerical approach is inimicable to the Japanese temperament. Whether it be in the making of swords, the design of prints, or the construction of psychological tests the Japanese must always do something artistic. In assessing candidates for the Air Force we try to arrive at an artistic judgment."

Validity data against the criterion of flying accidents were entirely anecdotal and took these forms: "Twelve of 17 pupils at Kumagaya Flying School were E class in motor coordination and they all had landing accidents"; "three men with E class results in motor coordination were allowed to train; they all died in accidents." Informants from the Air Headquarters pointed out that accidents, preventable ones due to thoughtless personnel errors, increased towards the end of the war, at a time when, by directive, a minimum of 25% of the applicants had to be accepted for pilot training. It was their belief that not more than 10% should have been taken. That selection standards actually had been severely relaxed was evidenced by the trend in average intelligence test scores. Before the war

the average for officers was close to 7, during the war it dropped to 5 and then to 3, but by the end of the war it was between 1 and 0.

Studies aimed at an assessment of psychological tests by performing follow-up studies in combat situations were never attempted by the Japanese.

Test Development and Research

Japanese interest in aviation psychology dates roughly from the close of World War I. In 1918 there was established in the Komaba section of Tokyo the Aeronautical Research Institute of Tokyo Imperial University. It is an imposing installation and was, until its closing by Allied military authorities in November, 1945, continuously active in all phases of aviation research. During the late 1920's and through the 1930's there was in progress, within Section XIII of the Institute (Aviation Psychology and Physiology), under Professor Yenjiro Awaji, considerable psychological test development for the air forces of both the army and navy.

In 1935 the Army Air Force established its own psychological research laboratory and processing station at Tokorozawa, about 30 miles northwest of Tokyo, under the direction of Technician Kajiki (later killed in an airplane accident). Candidates for aircrew training were few and the staff, though small, could devote the major portion of its time to development of tests, both written and psychomotor. There was also some experimental use of apparatus developed in other countries, those involving simulation of pilots' actions making the most appeal. Among others were the Mashburn Complex Coordinator and the Ruggles Orientator, both imported from America in the early 1930's. In March, 1938, a fire destroyed the Tokorozawa laboratory, together with most of its equipment, and a fresh start was made at Tachikawa where psychological work, both processing and research, was conducted within Department No. 8 of the 8th Aero-technical Institute.

Neither the Complex Coordinator nor the Ruggles Orientator was rebuilt after the Tokorozawa fire. Too much personnel was required to operate them and they were too expensive to reconstruct; it was judged that the same traits could be adequately tested with simpler apparatuses. Motor Coordination "A" and Motor Coordination "B" appear to have been developed to serve this need.

At Tachikawa a considerable range of research projects was under investigation, either initiated by the psychological section or participated in cooperatively with other sections. These included: construction of apparatus for the selection of bomb aimers and gunners; problems connected with acceleration, fatigue, and high altitude tolerance; studies concerned with aircraft instrument design; studies of the Link trainer as a testing device; problems associated with camouflage design; the construction of a "vibration tester" for airsickness; and development of tests for the selection of paratroopers.

The latter project led to some interesting test ideas. There was an "orientation test" which involved shackling a subject, by wrists and ankles, within a large hoop which was rolled past a series of differently colored cards. The task was to report, e.g., the number of red cards passed during the resulting bodily gyrations or to press a key when a light bulb en route was observed to be lighted. Another test, designed to "get at" judgments of size of the type occurring in a parachute drop, made use of a moving car in which the subject sat and viewed, through a totally reflecting prism, a distant target. The car was moved toward the target until the latter appeared, through the prism, to be of a predetermined size, when the subject was to stop the car or raise his hand. To test the ability to delay pulling the rip-cord of a parachute until a lapse of time "after jumping" a performance was designed as follows: a stop-watch, already running, was handed the seated subject who was to allow it to run on for exactly five seconds. After the expiration of about three seconds the subject's chair was dropped backwards without warning. A "poor adjustment" in this startle situation consisted in stopping the watch during the fall; a sufficiently stolid individual would let the full five seconds elapse (!). A final test in this experimental series employed a swing. Increasingly speeded instructions were given to pull one or the other rope, to change the direction of swing, and the ability to follow the commands was measured by recording errors.

At the time of the move to Tachikawa there were initially on duty but two psychologists and a few assistants. By the end of 1940 three psychologists had been added and, in 1943, three more augmented the staff. Meanwhile the demands of processing were increasing and less and less time became avail-

able for test development. For all practical purposes, except for necessary test revisions, the period of the war may be considered to have been one of application rather than one of research. As Mr. Mochizuki put it, "It was a period of examiner development rather than examination development." As has been seen, by the time crowded facilities at Tachikawa forced *Koku Tekisei Kensabu* out to Chofu, eleven psychologists were on its staff, all busy with test administration and evaluation, little research being accomplished.

But if Chofu and Tachikawa were unable to perform any large amount of research there were other agencies in Japan concerned with aviation psychology, though less urgently. Reference has already been made to Awaji's work at the Aeronautical Research Institute of Tokyo Imperial University. Under its aegis, in the prewar years, a considerable number of tests were tried out for both the army and navy. Among these were: various group intelligence tests; tests of emotional instability, including the Woodworth inventory and the Pressey X-O test; the McDougall dotting test; various forms of rote memory tests utilizing the Ranschburg exposure apparatus; an "Aussage" test using motion picture (newsreel) materials; a test of distance perception, performed in an open field with five flags set in different directions and at different distances from the subject; a test of rapidity of ocular accommodation and one permitting the charting of the dark adaptation curve, several differently illuminated Landolt rings being employed; a test involving carrying out sequences of simple commands; and a test of perception of musical rhythms.

One test idea, tried out but apparently never brought to the stage of validation, merits more detailed description in that it involved a performance requiring gross bodily coordination, a function generally recognized to be difficult to bring to objective measurement. The test was called "Bodily Control in Selective Running" and utilized a series of 30 blocks, each 30 cm. square, laid out to provide a long, staggered path. Certain of the plates were colored blue, others red, and others white. The instructions might be to run the entire course as rapidly as possible but to step on red blocks only with the right foot, blue only with the left, and to avoid the white ones. Time and errors were recorded. Sometimes the course was run holding a

weight by the side or over the head; sometimes the weight was strapped on the back. Whereas the rationale for pilot selection is not immediately obvious, those who have attempted to design tests of gross coordination will find the idea not lacking in interest.

Several pilot validation studies were performed in connection with the work of the Aeronautical Research Institute. A battery consisting of eight tests: Motor Coordination "A" and "B" (Army); the Selective Reaction Test (Navy, later to be described); the McDougall Dotting Test; one variant of the Rote Memory Test; Eye Accommodation Speed; Distance Comparisons; and Dark Adaptation Rate yielded validities (Pearsonian r 's), in different samples, of .42 to .48. The criterion in these instances consisted of ratings given by navy instructors in primary flight training. The eight tests were equally weighted and all were scored on a simple A, B, C, D scale.

Many Japanese psychologists were interested in problems of aviation and ample opportunity for their discussion was afforded through meetings of the Japanese Association of Psychology (1925-), with a membership of 650; the Society of Aviation Medicine (1944-), with about 500 members; and the Aerotechnical Society (1942-45), Section XII of which was devoted to aviation medicine and aviation psychology. The latter organization was concerned with four groups of problems: high altitude tolerance, high speed flying, fatigue, and aptitude measurement.

A development of some significance was the establishment at the Nakajima Aircraft Factory of a psychological laboratory devoted to selection and training of workers. A large battery of selection tests, embracing the areas of intelligence, perception, dexterity, "personality", and physical endurance, was employed. Professor Awaji who, in addition to his heavy responsibilities at the Aeronautical Research Institute, undertook to direct the Nakajima work, performed a series of job analyses, and prepared a complete training manual for all classes of employees.

THE JAPANESE NAVAL AIR FORCE

Throughout the course of the war there was little coordination between the Japanese army and naval air forces with respect to processing techni-

ques even though, as has been seen, many of the selection devices used by the two services had originated in a common source. The navy had no large central processing station nor was testing conducted continuously, as was the case with the army. Processing of Naval Air Force candidates was performed semi-annually, for a period of about a week each time, at each of seven naval air bases: Tsuchiura, Kagoshima, Matsuyama, Mie, Chiba, Fukuoka and Mito. Three hundred candidates could be examined each day at each installation. During 1944, when the processing rate reached its peak, some 25,000 applicants for naval flight training were tested in all seven stations combined.

As with the army, psychological selection testing was conducted in conjunction with the physical examination and was thus organized under the medical department. Disqualifications for psychological reasons outnumbered purely physical rejections in the ratio of 3 to 1. Two days were required of each candidate, psychological tests being administered the first day and the physical examination coming the next. On the morning of the third day an interview, very much like the army "verbal tests", was held and a final decision concerning acceptability was reached.

Both group tests and psychomotor tests were used at the time of initial selection. However, relatively more reliance was placed on the psychomotor tests than was the case with the Army Air Force.

DESCRIPTION OF TESTS

Two *group tests* were given:

1. *Intelligence Test.*

This test had twelve parts as follows: (1) Mazes; (2) Cube counting; (3) Pattern test (simple paper form board); (4) Symbol-digit substitution; (5) Clerical accuracy with digits (same-different); (6) Simple addition; (7) Inductive reasoning (geometrical forms); (8) Inductive reasoning (digit series); (9) Cancellation of geometrical forms; (10) Figure completion after rotation of figure; (11) Identification of relative parts of distorted figures; (12) Following directions. It will be noted that five of the parts had contents similar to those of the JAAF intelligence test. The JNAF test had better

coverage and required a little longer to administer (1 hr., 10 min.).

2. *Kraepelin-Uchida Mental Addition Test.*

This test was, in all particulars, identical with the "Calculations Test" used by the JAAF and described above.

In the early part of the war the JNAF employed a battery of six psychomotor tests in its selection battery. Later, under the press of numbers of applicants to be processed, three apparatus tests were dropped. Those retained are designated by asterisks in the following description of all six *psychomotor tests*:

1. *"Motion Control" Test.*

In this apparatus an artificial horizon, viewed through a window, was made to oscillate erratically by a motor driven cam. A "stick", free to move laterally, was joined by a pulley system to the cam mechanism and appropriate right-left movements would correct for the tipping of the horizon. The time in which the horizon was held level, in a continuous pursuit performance, was measured with an electric chronometer.

*2. *"Three Pointer" Test.*

This was also a pursuit test. Three differently colored pointers, moving about a common axis, were required to be kept in coincidence. A black pointer, driven by an electric motor, made simple reciprocating pendular motions. A red pointer, controlled by a "rudder", and a white one, moved by a "stick", were to follow the black pointer. The time in which all three were in coincidence was measured by an electric timer.

*3. *"Judgment Coordination" Test.*

A motor-driven turntable, disposed horizontally, had painted on its periphery a series of arrows, some pointing centripetally, others centrifugally. Two needles, actuated by a single wheel which could be turned clockwise or counterclockwise, were suspended over the near edge of the disc. Movements of the wheel caused the needles to move to the right or left without changing their spacing. The task was to make the needle points pass always behind the arrows and without touching the edge of the disc. Errors were recorded by an electric counter. "Fore-

sight" and "planning" were thus involved in this performance.

4. "Selective Reaction" Test.

On a sloping panel there appeared, through a window, a row of six arrows. Each arrow could point in any of eight directions. The three on the right, together with a "guide" arrow which appeared in a smaller window above them, were to be reacted to with the right hand. Whenever any two of the three had the same indicated direction as the guide arrow a key was to be pressed. The same arrangement obtained for the left side of the apparatus, a second key being supplied for the left hand. All arrows changed direction once each second. Errors were counted electrically.

5. "Memory of Speed" Test.

An endless belt, 60 cm. wide, having alternate black and white stripes painted on it, was driven at a constant and predetermined rate. The examinee was to view the moving field and "memorize" it. The field speed was then changed and the subject was required to adjust it, by turning a control knob, until the remembered speed was reestablished. The extent of the error of setting was measured on a calibrated scale. The entire apparatus differed but slightly from the James "waterfall" except that wavy, rather than straight, stripes were used.

*6. "Figure Regeneration" Test.

A series of geometrical figures, connected in a single sequence, passed by a window in a box. The examinee was to view the entire sequence, "integrate" it, then reproduce the whole figure by drawing. This test, inspired by Gestalt considerations, also made its way into the USAAF experimental program in motion picture form. Mr. Mochizuki, the designer of the Japanese test, reported it to have a high correlation with general intelligence, as measured by the 12-part test described above.

Norms for the JNAF tests were not available. From a description of them and of conversion tables they presumably did not differ in character from those accompanying the JAAF tests, the same deferment to scoring convenience being made. The mode of combining test results was also similar. Each score was examined at the time of the all-important interview and if an outstanding weakness

appeared in any test performance the candidate was allowed to repeat the test. ("It is clumsiness we are looking for, not numbers"). After any adjustment coming out of the repetition the applicant's scores were inspected generally and characterized as "good", "average", or "poor" (failing). There were two ways to fail to qualify, either by making a poor score on any one test, even after repetition of it, or by having a low total "weighted" score. Our informants, however, could not recall the weights! Apparently they were not sufficiently rigorously applied to cause any inconvenience to the "expert" in arriving at his final assessment of the candidate.

Selection and Classification

The test battery described above served in initial selection of potential flying personnel. Classification into specific aircrew categories was not attempted at this time, nor was there any need for it since all successful candidates passed into a common course of ground and glider training, at the end of which the surviving students were retested. The preflight course typically lasted six months, though in the pre-war years it required a whole year and near the end of the war, so urgent did the need for flyers become, students were sent on into flight training after only three months work in ground school. The "classification tests" consisted of the three (or six) psychomotor tests previously used in selection with, however, more trials being given, and one additional performance test. This was the Visual Link Trainer, employed as a test in very much the same fashion as by the RCAF during the war. A visit was made to the naval air base at Tsuchiura, about 80 miles northeast of Tokyo, and there were seen the remains of several Link trainer-tester installations. Though smashed almost beyond recognition in the systematic demolition of that base even then being completed by the Allied military authorities, it was possible to reconstruct the Link testing situation (and, incidentally, to recover copies of all JNAF psychomotor tests; these were sent to the U. S.). Dual control Links were used in conjunction with a large semi-circular panorama. By manipulation of the trainer controls the examinee was to aim successively at a series of targets (lighthouse, gun emplacement, etc.) on the panorama, traversing the shortest path between them. An elaborate scoring method had been evolved by Mr. Takagi, psychologist "engineer"

and Technician Official of the navy. The Link trainer had not been used widely as a testing device until 1942; prior to that the additional psychomotor performance demanded at the time of classification consisted of an actual job sample, taking over the controls of a primary trainer in the air, definite maneuvers being prescribed by the instructor. Economy of instructor time and of equipment prompted the departure from the flight sample and the development of the Link test. Comparisons with testing trends in the RAF and RCAF, throughout the war, suggest themselves.

No written tests were included in the classification battery. However, there were supplementary data to serve as guides in the assignment to specialties. Grades in mathematics, communications, and general naval subjects were available, as were "character records". Preferences could not be followed since 90% wanted to be pilots.

The major differentiation in classification was that between pilots and "scouts" (bombardiers, navigators, gunners). Test results were used in this connection, about as in the JAAF, but assignment of pilot material to specific categories: fighters, bombers torpedo planes, seaplanes, and flying boats, or of "scouts" to specific sub-classes was accomplished without reference to test results. A study of fighter pilot-bomber pilot differentiation was in progress at the end of the war, with no results leading to administrative action forthcoming.

Validity of the Japanese Naval Air Force Battery

It proved impossible to secure, from the informants available, any data on the validity of individual tests comprising the JNAF battery. However, two naval psychologists independently stated the validity of the whole battery to be of the order of .30 to .40. Another believed

it to be at least .40, perhaps higher. Considering the "coverage" of the tests, their probable reliabilities, their probable intercorrelations with each other, and the probable reliability of the criterion (class standing at the termination of training), these figures seem not unreasonable. However, as was the case in the investigation of JAAF results and practices, no recorded data on validity were seen; the results had been destroyed by burning.

SUMMARY

Two officers of the U. S. Army Air Forces Psychological Program visited Japan during the post-surrender invasion and investigated the methods used by the Japanese Army Air Force and Japanese Naval Air Force, during the war, for the selection and classification of pilots and other aircrew. Procedures in the two services differed somewhat, but both employed batteries of psychological aptitude tests in assessing fitness for flight training. Written and psychomotor tests were used. In addition, a final individual interview was held. The results of the latter were given an inordinately high weight in determining the outcome. Many of the procedures were intentionally subjective, the aim being to arrive at an "artistic" judgment in each individual case.

An active program of research in aviation psychology had been in progress in Japan since the early 1930's but, during the war, further test development was largely abandoned in favor of routine processing of large numbers of applicants for flying training. However, there were conducted statistical studies aimed at the determination of test validities.

Description of all tests instruments used by the Japanese, together with accounts of the procedures leading to classification of both aircrew and certain categories of ground crew, are given.

Across the Secretary's Desk

UNESCO

UNESCO—The United Nations Educational, Scientific and Cultural Organization—opens its constitution with this stirring challenge to all the people of the world who believe in democratic principles of government.

CONSTITUTION

of the

United Nations Educational, Scientific
and Cultural Organisation

THE GOVERNMENTS OF THE STATES PARTIES TO THIS CONSTITUTION ON BEHALF OF THEIR PEOPLES DECLARE

that since wars begin in the minds of men, it is in the minds of men that the defences of peace must be constructed;

that ignorance of each other's ways and lives has been a common cause, throughout the history of mankind, of that suspicion and mistrust between the peoples of the world through which their differences have all too often broken into war;

that the great and terrible war which has now ended was a war made possible by the denial of the democratic principles of the dignity, equality and mutual respect of men, and by the propagation, in their place, through ignorance and prejudice, of the doctrine of the inequality of men and races;

that the wide diffusion of culture, and the education of humanity for justice and liberty and peace are indispensable to the dignity of man and constitute a sacred duty which all the nations must fulfill in a spirit of mutual assistance and concern;

that a peace based exclusively upon the political and economic arrangements of governments would not be a peace which could secure the unanimous, lasting and sincere support of the peoples of the world, and that the peace must

therefore be founded, if it is not to fail, upon the intellectual and moral solidarity of mankind.

The Board of Directors of the American Psychological Association has expressed formal approval of the principles on which UNESCO is based in the following unanimously-approved resolution.

RESOLVED that the American Psychological Association endorses the principle and the constitution of The United Nations Educational, Scientific and Cultural Organization, and that it offers to the Department of State its support in achieving the high purposes expressed in that constitution.

Representatives of the APA have recently met with Mr. Howard Wilson, Deputy Executive Secretary of the Preparatory Commission for UNESCO, and with Dr. Esther Brunauer, United States Minister to the Preparatory Commission, to discuss with them ways in which UNESCO may aid international psychological programs and cooperation, and ways in which psychology can help to attain the objectives of UNESCO.

UNESCO is not yet established. It is being planned. A preparatory commission now meeting in London is working out its organization and program. It will not come into existence until its constitution is accepted by twenty nations. A copy of the constitution and other documents relating to the establishment of UNESCO are bound together in a booklet entitled "The Defenses of Peace" which may be obtained for ten cents from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.

Now, while plans are being discussed and formulated, the members of the Preparatory Commission are eager to receive the advice of all who are interested in the principles upon which UNESCO is based. A tabulation of suggestions already received shows fewer in the Social Sciences than in any other major area. The Preparatory Commission will therefore especially welcome the advice of social scientists. Send your suggestions to Dr. Esther C. Brunauer, United States Minister to the Preparatory Commission, UNESCO, State Department, Washington 25, D. C.

THE NEXT GENERATION

During the past few months, Doctors Bray, Marquis, Miles, and I have spent a good many hours reading the applications, recommendations, and transcripts of the men who applied to the National Research Council for emergency fellowships. Last year a sum of money was granted to the NRC by the Rockefeller Foundation to be used for fellowships for men whose graduate training in science was interrupted by the war. The four of us were named by the NRC as a committee to rate the applicants in psychology.

Reading all these applications was a frustrating experience. There were so many good men that picking the best ones was always difficult. Time and again we had to try to decide which was better, a *B.A. magna cum laude* from one college or a *B.S. with distinction* from another; being rated in the top ten percent of graduate students known by one professor or the top five percent known by another; an average grade of A from one university or an average grade of S from another. The physicists and chemists, the geologists and mathematicians and physiologists encountered the same difficulties and felt the same frustration. Jointly we have recommended that the NRC seek a better basis for the selection of future Fellows. The APA is interested in this problem, and has appointed a Subcommittee on the Selection of Graduate Students to work within our own field.

Reading these applications was sometimes an irritating experience. What consideration could we give to an applicant who chose, as his three endorsers, a history professor, his high school principal, and the non-psychologist Army officer under whom he

served. None of us knew any of the endorsers. How could we evaluate the high school principal's statement: "Mr. — is easily within the top five percent of graduates I have known"? Did he mean high school graduates, college graduates, or graduate students? Applicants for fellowships should be reminded to choose their endorsers from the field in which they wish to work. The endorsers are more likely to be known and their endorsements to be properly evaluated.

Reading these applications was sometimes an amusing experience. If we wished to consider character, we had an endorser's statement: "Mr. — is of unquestioned character and of aggressive and pleasing personality and is always polite." If we wanted to consider ability, we found one enthusiastic sponsor writing: "Mr. — has so much brains and intelligence it is almost unbelievable." My choice, however, was the capable young experimenter whose professor wrote: "Mr. — has a great flair for experimental psychology, and readily finds practical solutions to intangible problems." The future of psychology seems in safe hands.

Reading these applications was also a rewarding experience. We had the pleasure of getting acquainted with the records of a group of very superior young psychologists. The ten men granted fellowships, out of the one hundred and fourteen we considered, are:

Harold P. Bechtoldt
Frank J. Dudek
Keith J. Hayes
Douglas H. Lawrence
W. G. Mollenkopf

Conrad G. Mueller
Moncrief H. Smith, Jr.
Richard L. Solomon
Eliot Stellar
John T. Wilson

DAEL WOLFLE

Psychological Notes and News

KARL S. LASHLEY has been awarded the Daniel Giraud Elliot Medal by the National Academy of Sciences in recognition of the high merits of his work, "Studies of Cerebral Function in Learning." The Elliot Medal is given for the most meritorious work in zoology or paleontology each year.

Last year the Board of Directors of the APA authorized the appointment of a special representative to act as a field worker in vocational counseling. JOHN G. DARLEY has accepted the appointment and assumed his duties in the APA office on May first.

HELEN PEAK has been appointed professor and chairman of the department of psychology at Connecticut College.

E. LOWELL KELLY has been appointed professor of psychology at the University of Michigan. Comdr. Kelly has been on duty with the Bureau of Medicine and Surgery and the Office of Research and Inventions of the Navy.

W. J. E. CRISSY has opened an office at 57 William Street, New York City as a specialist in personnel selection, up-grading and training. Dr. Crissey served three and one-half years in the Navy, as a line officer with forces afloat. He received a bronze star medal in combat as Damage Control Officer of a destroyer during the Surigao Strait Sea Battle in October, 1944.

JOSEPH E. BREWER has been appointed assistant director of the Wichita Child Guidance Center. Dr. Brewer was formerly on the staff of the Louisville Mental Hygiene Clinic and on the faculty of the University of Louisville Medical School. ANNETTE MACDONALD, formerly at Vassar College has been appointed senior extern, and MARY HYDE of the University of Wisconsin has been appointed junior extern.

MARTIN D. JENKINS, department of education, Howard University, has been awarded the Selective Service Medal for outstanding service to the Selective Service System. The citation reads in part: "You have been selected for your work as Chairman of the Special Research Committee of the American Teachers Association, in which capacity you conducted a study of the causes of the high rate of rejections of Negro selectees for illiteracy and failure to meet minimum intelligence standards. . . . It is our belief that remedial measures, which have been started as a result of your study, will continue and prove a most important factor in increasing the availability of young Negro men for service in the armed forces." Dr. Jenkins has also been advanced to the rank of full professor in the department of education.

NICHOLAS HOBBS has accepted a position as assistant professor in the Division of Guidance, Teachers College, Columbia University.

S. HOWARD BARTLEY has been promoted from assistant professor of research in physiological optics to professor of research in the visual sciences, Dartmouth Eye Institute, Dartmouth Medical School.

STANLEY G. DULSKY has been appointed director of the Vocational Guidance Division of the Personnel Institute, Inc., Chicago, Illinois.

FRANCIS M. WICKERSHAM, Lt. Col., AGD, formerly Personnel Consultant for the Army Service Forces Training Center, Fort Leonard Wood, Missouri, has been appointed psychologist for the U. S. Public Health Service Hospital at Fort Worth, Texas.

IRVING A. FOSBERG, Lt. Comdr., H(S), USNR, has been assigned to the U. S. Naval Medical Research Institute at Bethesda, Maryland, as research consultant in aviation psychology to the Aviation Facility.

KENNETH H. BAKER has been appointed director of research for the National Association of Broadcasters. Dr. Baker, who was formerly on the faculty of the department of psychology at the Ohio State University, served during the war with the Office of Strategic Services.

HENRY J. WEGROCKI has announced the opening of offices with practice limited to psychiatry with special reference to psychosomatic problems at the California Medical Building, Los Angeles, California.

KATE LEVINE KOGAN has been appointed a senior clinical psychologist and EDITH FLEMING has been appointed an assistant research psychologist at the Western State Psychiatric Institute and Clinic in Pittsburgh.

WILLIAM D. KATZ has announced the opening of his office as a consulting psychologist at the Albee Building in Brooklyn, New York. He has also been appointed chief psychologist of the newly organized Human Relations Guidance Center in Brooklyn.

RODERICK M. CHISOLM has been appointed to the newly established Barnes Foundation Professorship of Philosophy at the University of Pennsylvania. Professor Chisholm was recently released from the Army where he served as a clinical psychologist in the Medical Administration Corps.

MARTIN W. SCHAUL, formerly chief of training for the Corps of Engineers, War Department, and senior employment counselor for the USES, has accepted an appointment as director of the Institute for Occupational Research, Inc., New York City.

Rohrer, Hibler & Replogle announce the opening of a new regional office in Suite 520, Terminal Tower, Cleveland, Ohio. J. ELLIOTT JANNEY is resident partner in charge. The following men have recently been appointed as staff psychologists in the organization: EDWARD M. GLASER, formerly Lt. Comdr. USNR, is attached to the Los Angeles office; MACK T. HENDERSON, formerly professor of psychology at Grinnell College, and ELLWOOD W. SENDERLING, formerly Captain, AGD, are attached

to the Chicago office; RICHARD W. WALLEN, Lt., USNR is attached to the Cleveland office; J. WATSON WILSON, formerly director of instruction, ESMWTP, Yale University School of Engineering, is attached to the New York office.

The Committee on International Peace of the Society for the Psychological Study of Social Issues is working in cooperation with the Association of American Scientists on psychological problems of international security and accord. At the request of the atomic physicists, the Committee, under the chairmanship of DAVID KRECH, has prepared a statement on "Psychology and the Atomic Energy Problem." The statement, which is the first of a series of observations and research studies, points out the psychological implications of the atomic bomb and presents a list of proposals for dealing with the problem. Copies may be obtained from Dr. Krech, Department of Psychology, Swarthmore College.

Several psychologists took part in the conference on the measurement of consumer interest held on May 17 and 18 at the University of Pennsylvania. At the informal panel on Problems in Practice MALCOLM C. PRESTON, University of Pennsylvania, was one of the speakers. FRANCIS W. IRWIN, University of Pennsylvania, spoke at the general session on Techniques of Evaluating Performance. Chairman of the session on Applications of Interests, Preferences, and Attitudes was JOHN G. JENKINS, University of Maryland. The two speakers were MORRIS S. VITELES, University of Pennsylvania and DORWIN P. CARTWRIGHT, Bureau of Agricultural Economics.

ELMER D. WEST, former dean and director of projects at Stoneleigh College, has been appointed director of counseling and placement at the University of New Hampshire.

JOHN A. BATH has been appointed assistant professor of psychology at Iowa State College. His duties will be primarily with the testing bureau.

The Kentucky Psychological Association held its annual meeting at the University of Louisville on April 26 and 27. The program included a visit to

the psychological laboratory of Joseph E. Seagram's and Sons, a series of papers, and a round-table discussion on "The Contributions of Clinical Psychology to the Classroom."

Announcement is made of position vacancies in grades P-1 to P-7 (\$2,320 to \$7,175 a year) in the Personnel Research Section of the Adjutant General's Office at 270 Madison Avenue, New York City. Applications are being accepted for immediate appointment until vacancies are filled. Application must be made in duplicate on U. S. Civil Service Commission Standard Form 57, *Application for Federal Employment*, and mailed directly to the Personnel Research Section, at the above address.

Positions are available in the areas of statistical planning and analysis, the development of predictive devices and in editorial and reporting functions. With some exceptions the positions above P-2 are open only to males since they require field work under conditions which preclude the use of women. All positions are permanent. However, applicants will be appointed in a temporary indefinite status pending the establishment of a selection program for probational appointment of permanent federal employees. Persons appointed on a temporary indefinite status will be eligible to compete for permanent status and will be given special consideration.

Except for substitutions provided for below, applicants must have had progressive experience in the planning and execution of research studies for the development, validation and standardization of tools and techniques for implementing all phases of personnel management. Three years of such experience are required of applicants for the grade of P-1, and an additional year for each of the higher grades up through P-6. For appointment in the grades of P-5 and above, some of this experience must have been gained through research in or for the armed forces. For the grades of P-6 and above, applicants must also evidence ability to organize, administer and direct large scale research activities. Routine experience in testing, counseling, interviewing, etc., will be counted for limited credit. Experience in the purely operational phases of a personnel program is non-qualifying.

College education in *Psychology* or *closely related studies* may be substituted for not more than five

years experience at the rate of nine months of experience for one year of education. The full five years will be allowed only when the applicant has completed all the requirements for the Ph.D. degree. Selections will be based on evaluations of education and experience as reported in the application, plus an oral examination.

The Navy Department has recently announced that psychologists who hold commissions in the Naval Reserve may now apply for transfer to the Regular Navy for two types of work. NAVACT 42-46 provides that requests are desired from commissioned psychologists whose specialties are medical research psychology, aviation psychology, or clinical psychology, for contemplated assignment to medical research facilities, aviation units, or naval hospitals. The doctorate in psychology is a requirement for this group. The NAVACT also provides for requests from commissioned educational and personnel psychologists with experience in statistics, measurement, and test construction. It is contemplated that these officers will be assigned to duty in personnel research, and in large training commands afloat and ashore. These officers must have a master's degree in psychology. Further details may be secured from the Bureau of Medicine and Surgery or the Bureau of Naval Personnel.

The Department of Psychology at the University of Missouri has announced the availability of several laboratory graduate assistantships for the coming academic year. Stipends are from \$750 to \$850 for a nine-month period. Assistants are expected to spend twenty hours a week conducting undergraduate laboratory sections and grading papers. Applications will be considered from students with a bachelor's degree and superior undergraduate work in psychology and related subjects. Applications should be sent to the Chairman, Department of Psychology, University of Missouri, Columbia, Missouri.

The New York University Testing and Advise-ment Center announces that twenty assistantships will be available for the coming year. Assistants will engage in supervised interviewing, testing, statistical studies, and other work of the Center.

Each appointee will carry a work schedule of approximately thirty hours a week and will be permitted to take three courses, tuition free. The stipend is \$100 a month. Candidates must have a master's degree in psychology, education, or sociology, or other equivalent academic or practical experience. Address inquiries to W. D. Glenn, Jr., Director, Testing and Advisement Center, New York University, Washington Square, New York 3, New York.

The City College of New York has announced the modification of the graduate work of the Department of Psychology to include a series of courses integrated about an organismic and dynamic approach to the study of the normal personality and its deviates. Courses will be given by Bruno Klopfer, Ernst Kris, Kurt Goldstein, A. L. Benton, and others. Only a small number of students can be accepted. Applications for the fall semester must be filed by September 1, 1946. Address inquiries to Prof. J. E. Barmack, Chairman, Graduate Committee in Psychology, The City College of New York, Convent Ave. and 139th St., New York 31, New York.

Clinical Assistantships at the Psychological Services Center at Syracuse University. A number of clinical assistantships are available to candidates who meet the following requirements: completion of the master's degree in psychology, or the equivalent; under 35 years of age; intention to receive the Ph.D. or Ed.D. in personnel or clinical psychology; experience in counseling. The fields of specialization are general clinical counseling, psychotherapy, industrial personnel work, and remedial reading and study skills. Stipend is \$1200 for the first twelve month appointment. Applicants are asked to submit a transcript of undergraduate and graduate records, educational-occupational history, a recent picture, and a list of references. Correspondence should be addressed to Dr. Milton E. Hahn, Psychological Services Center, 125 College Place, Syracuse 10, New York.

The Samuel S. Fels Research Institute of Antioch College has announced an expansion of its program in the study of human development. Expansion of

the program will be characterized by an intensification of research effort within each of the disciplines already maintained: anthropology, biochemistry, genetics, physiology, psychology, and psychosomatic medicine. Of particular pertinence to the field of psychology is the program of research involving longitudinal behavior study. From the fetal period until maturity, by means of a wide variety of observations and measurements, intense study is made of the dynamics of personality development. Special attention is given to the appraisal of the home and school environment, and to the manner in which these interpersonal relationships influence human effectiveness. A unique aspect of the opportunity offered psychology fellows or interns is the integration with studies of growth, physiology, biochemistry, and nutrition.

In addition to its staff positions, the Institute is providing a number of Fels Research Fellowships. Designed for the individual student in any of its areas of research activity, the stipend of the fellowship will provide opportunity for research toward an advanced degree, as well as training in research method. Inquiry concerning these fellowships should be addressed to the director of the Institute, Dr. L. W. Sontag.

Army Commendations of Civilian Psychologists. Major General Edward F. Witsell, The Adjutant General, has recently awarded The Secretary of War's Certificate of Appreciation for Civilian War Service to the following psychologists whose contributions to the Army's program for examining and classifying ten million soldiers have been outstanding: HENRY E. GARRETT, C. FREDERICK HANSEN, LAWRENCE J. O'ROURKE, CARROLL L. SHARTLE, LOUIS L. THURSTONE, RUTH S. TOLMAN, F. LYMAN WELLS, ROBERT A. BROTEMARKLE, IRVING LORGE, HAROLD A. EDGERTON, JAY L. OTIS, MILLICENT POND, FRANCIS F. BRADSHAW, HERMANN H. REMMERS. A posthumous award to the late CARL C. BRIGHAM has been presented to Mrs. Brigham.

The department of psychology at the Ohio State University has recently published a news letter reporting the psychological activities of alumni and present staff. Copies may be obtained from Dr. Harold E. Burt, chairman of the department.

Convention Calendar

AMERICAN PSYCHOLOGICAL ASSOCIATION, INC.

Date: September 4-7, 1946

Place: University of Pennsylvania
Philadelphia, Pennsylvania

For information write to:

Dr. Dael Wolfe, Executive Secretary
American Psychological Association, Inc.
2101 Constitution Avenue, N. W.
Washington 25, D. C.

ROCKY MOUNTAIN BRANCH OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION

Date: May, 1947

Place: Colorado College
Colorado Springs, Colorado

For information write to:

Dr. Lillian G. Portenier
Department of Psychology and Philosophy
University of Wyoming
Laramie, Wyoming

WESTERN PSYCHOLOGICAL ASSOCIATION

Date: June 28-29, 1946

Place: Stanford University

For information write to:

Dr. Lester F. Beck
Department of Psychology
University of Oregon
Eugene, Oregon

PSYCHOMETRIC SOCIETY

Date: September 4-7, 1946

Place: University of Pennsylvania
Philadelphia, Pennsylvania

For information write to:

Dr. Harold A. Edgerton
Occupational Opportunities Service
The Ohio State University
Columbus 10, Ohio

AMERICAN ASSOCIATION ON MENTAL DEFICIENCY, INC.

Date: October 2-5, 1946

Place: Hotel Mt. Royal
Montreal, Quebec, Canada

For information write to:

Dr. Neil A. Dayton
Mansfield Training School
Mansfield Depot, Connecticut

THE SOUTHERN SOCIETY FOR PHILOSOPHY AND PSYCHOLOGY

Date: April 4-5, 1947

Place: St. Louis, Missouri

For information write to:

Dr. Joseph Weitz
Sophie Newcomb College, Tulane University
New Orleans, Louisiana

THE AMERICAN PSYCHOLOGIST is the official journal of the American Psychological Association. It is intended to serve the professional interests of all members of the Association. In addition to the reports, proceedings, and programs of the Association and of other psychological societies, the JOURNAL will contain articles on the professional problems of psychology. For the present, it will continue to publish some of the articles dealing with psychology and the war. But with the end of the war and the results of war research being declassified, thus making more detailed accounts available, many of the articles on psychology and the war can more appropriately appear in more specialized psychological journals.

The Editor welcomes any suggestion that would make the JOURNAL more useful to members of the psychological profession. Articles for possible publication are invited. Members of the Association are especially urged to send in psychological notes and news.

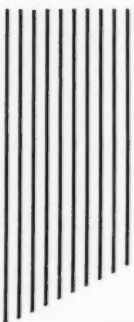
Manuscripts should be submitted in duplicate. In style and arrangement they should conform, insofar as possible, to the usage of the JOURNAL. The bibliographical references also should conform to standard practice of the Association journals. Figures and tables should be designed to occupy either a column 3 inches wide, or a page $6\frac{1}{4}$ inches wide.

As an aid in the preparation of manuscripts, contributors to the AMERICAN PSYCHOLOGIST, or to any of the other Association journals, should read: ANDERSON, JOHN E. and VALENTINE, WILLARD L. The preparation of articles for publication in the journals of the American Psychological Association. *Psychol. Bull.*, 1944, **43**, 345-376.



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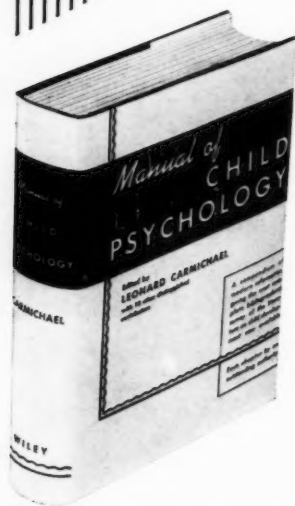
MANUAL OF CHILD PSYCHOLOGY



Edited by **LEONARD CARMICHAEL,**

*President and Director, Laboratory of Sensory
Psychology and Physiology, Tufts College*

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April 1946

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THE study of mental development has grown beyond the merely speculative stage. Reliable and controlled research has developed a body of facts concerning the growth of the human mind. Prepared by 19 outstanding authorities, this book presents a detailed survey—a review and critique—of important aspects of research in the scientific psychology of human development. It describes the theoretical substructure of child psychology, methods and techniques of investigation or research, and the facts or “content” which have arisen from the scientific studies of child behavior. Moreover, it indicates those aspects of the subject in which further research is needed. Extensive bibliographies are given at the end of each chapter; in fact, the book is a compendium of modern information, giving the most complete bibliographical survey of the literature on child psychology and development now available.

THROUGHOUT the book, the authors emphasize the importance of bodily growth and development as companion and comparative processes to mental growth and development. Each chapter is complete in itself; each retains the style and point of view of its individual author. Together, they give an accurate picture of the way in which psychological characteristics develop. A study of these characteristics in the child leads to a better understanding of mental processes in general, and the book thus becomes, as the editor states in the preface, “a factual introduction to the knowledge not only of child psychology but of the psychology of the normal adult human mind and even of the abnormal human mind.”

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